EX-96083 / 96103 / 96123 / 96153
(Human Machine Interface)
User Manual

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Warning!

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the workstation with its back cover removed. There are dangerous high voltages inside.

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Chapter 1

1.1 Features

- 8” TFT LCD with resolution of 800x600 for the EX-96083
  10.4” TFT LCD with resolution of 800x600 for the EX-96103
  12.1” TFT LCD with resolution of 800x600 for the EX-96123
  15” TFT LCD with resolution of 1024x768 for the EX-96153
- Fanless AMD LX-800 CPU with clock rate of 500MHz
- One 200-pin SO-DIMM socket, up to 1GB
- resistive touch screen
- NEMA 4/IP65 compliant front panel
- Input voltage range of 11-28V/DC

1.2 Specifications

System

CPU:
Fanless AMD LX-800 CPU with clock rate of 500MHz
System Memory:
One 200-pin SO-DIMM socket, up to 1GB DDR SDRAM
Storage:
Space for 2.5-inch HDD and 1 compact flash card slot
Power Supply:
Input voltage range of 11-28V/DC
Touch Screen:
Touch screen with 4-wire
I/O Connectors:
COM1: RS-232, DB-9 pin#9 RI/5V/12V selectable
COM2: RS-232/422/485 selectable, DB-9
COM3: RS-232, DB-9
COM4 occupied for touch screen controller
External USB 2.0 connector x2
2x5 2.0mm pin header for internal USB 2.0 x2
PS/2 keyboard/mouse connector x1
On board Buzzer x1
2-pin header for Reset switch
2-pin header for power on/off switch
2-pin header for Power LED

Ethernet port: RJ-45 supporting 10/100Mbps Base-T
Audio: AC'97 Codec, Line-in, Line-out, Mic
1 x CF slot
TOPSCCC Mini PCI Socket
2x SATA port

EMC:

FCC, CE A-level certified

Display

Resolution and color:

8” TFT LCD with resolution of 800x600 for the EX-96083 and maximum color of 262K
10.4” TFT LCD with resolution of 800x600 for the EX-96103 and maximum color of 262K
12.1” TFT LCD with resolution of 800x600 for the EX-96123 and maximum color of 262K
15” TFT LCD with resolution of 1024x768 for the EX-96153 and maximum color of 262K

Luminance:

EX-96083 : 400 cd/m²
EX-96103 : 250 cd/m²
EX-96123 : 300 cd/m²
EX-96153 : 400 cd/m²

Viewing angle:

EX-96083 : Top 55 / Bottom 65 / Left 65 / Right 65
EX-96103 : Top 55 / Bottom 55 / Left 65 / Right 65
EX-96123 : Top 40 / Bottom 55 / Left 60 / Right 60
EX-96153 : Top 50 / Bottom 50 / Left 60 / Right 60

Backlight:

Lifetime of 50,000 hours

Mechanical

Construction:

Aluminum alloy front panel and metal housing

Color:

Black front panel

Dimensions:

EX-96083 : 231(W) x 75.5(D) x 176mm(H)
EX-96103 : 317(W) x 62(D) x 243mm(H)
EX-96123 : 317(W) x 62(D) x 243mm(H)
EX-96153 : 409(W) x 69(D) x 309mm(H)

Weight:

Environment

Operating temperature:
0~50 ° C
Storage temperature:
0~60 ° C
Relative humidity:
10~90% @ 40 ° C non-condensing
Vibration:
1G / 5 ~ 500Hz (Random) / Operation
Shock:
15G peak acceleration(11 msec. duration)/operation

1.3 Dimensions

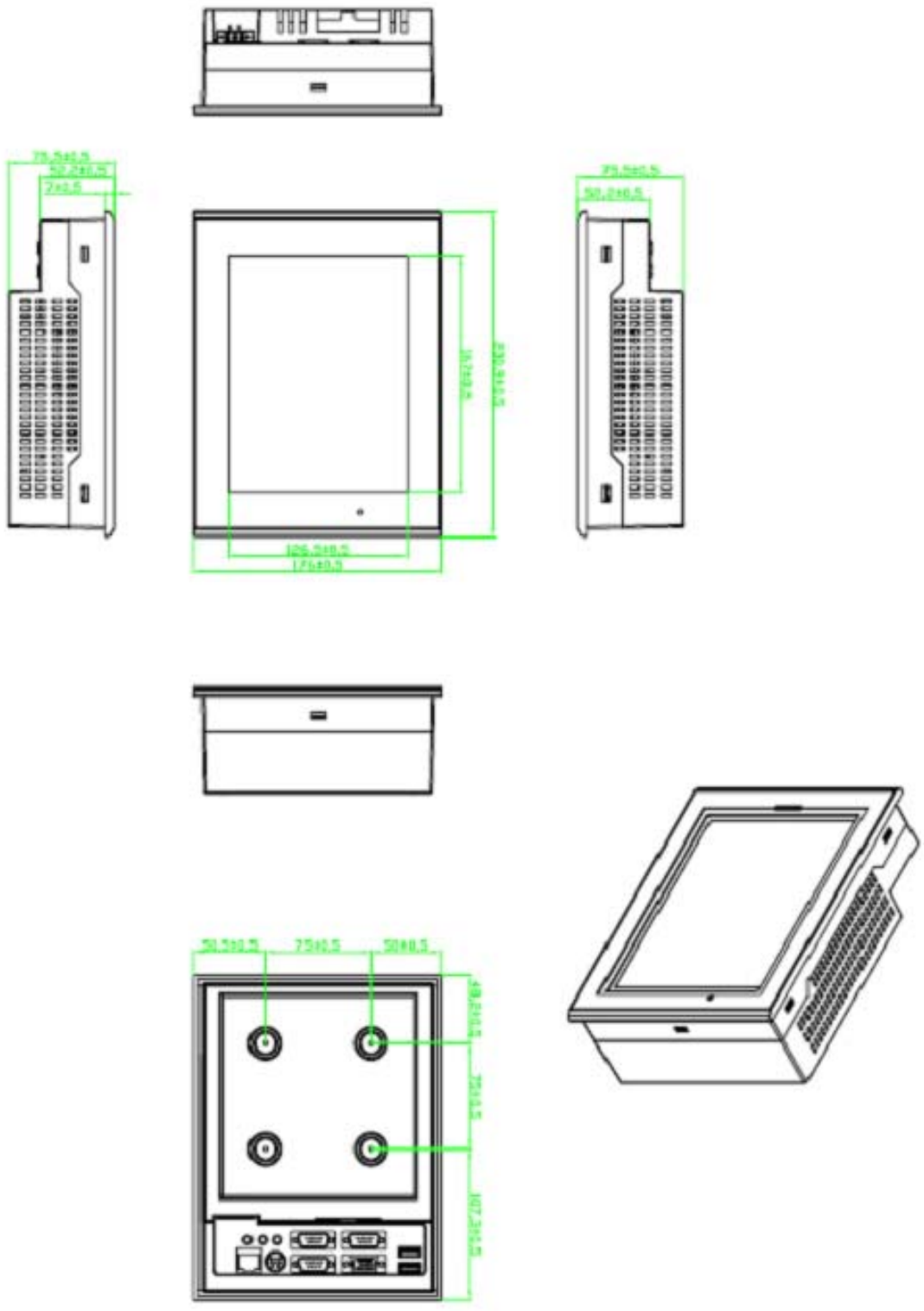


Figure 1.1: Dimension of the EX-96083

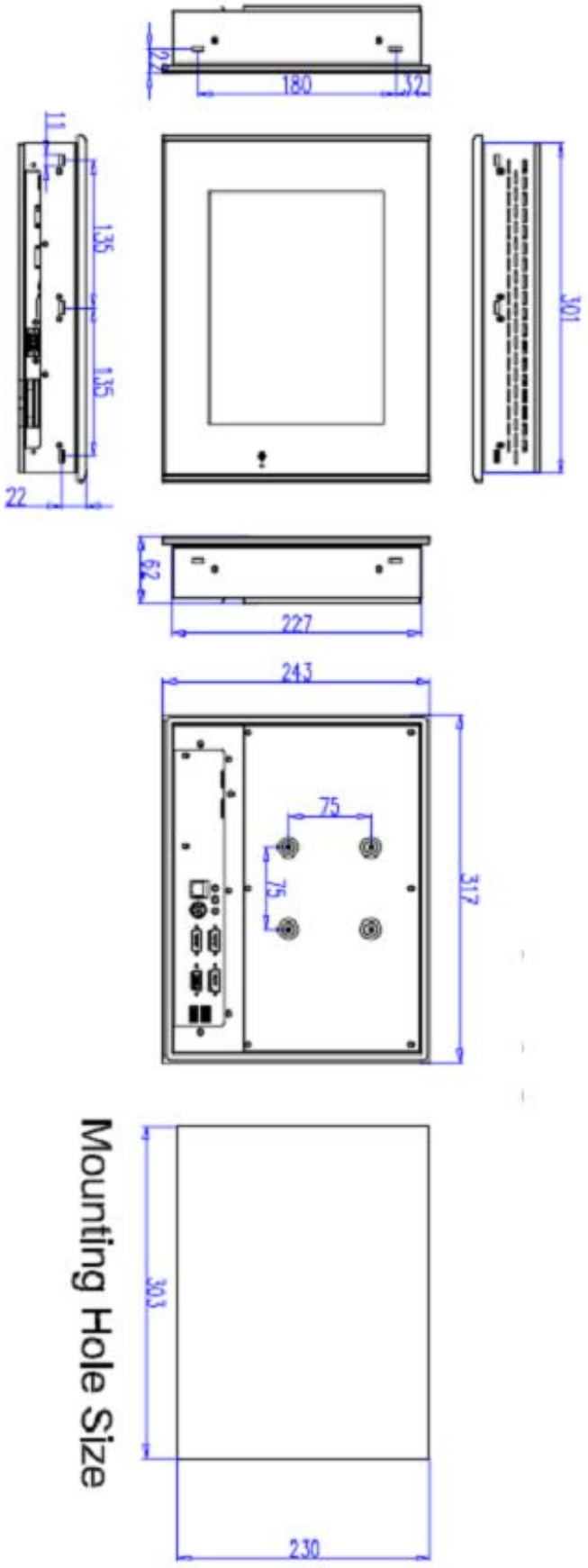


Figure 1.2: Dimension of the EX-96103

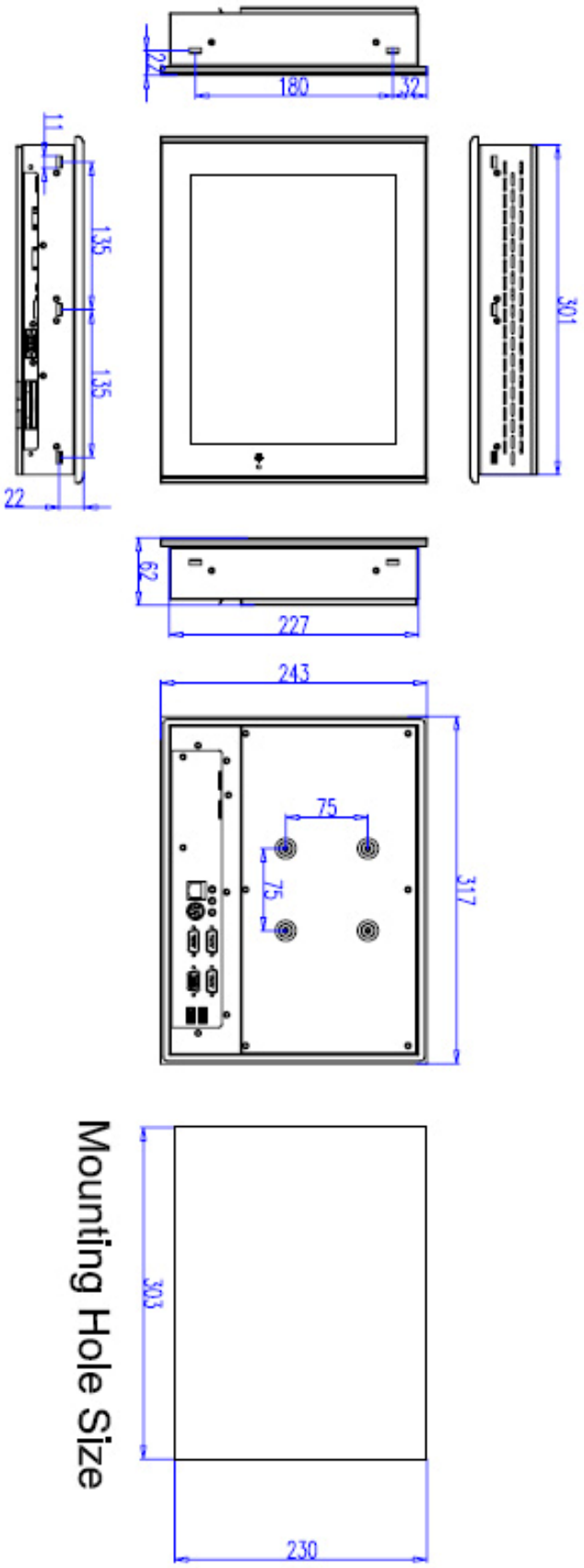


Figure 1.3: Dimension of the EX-96123

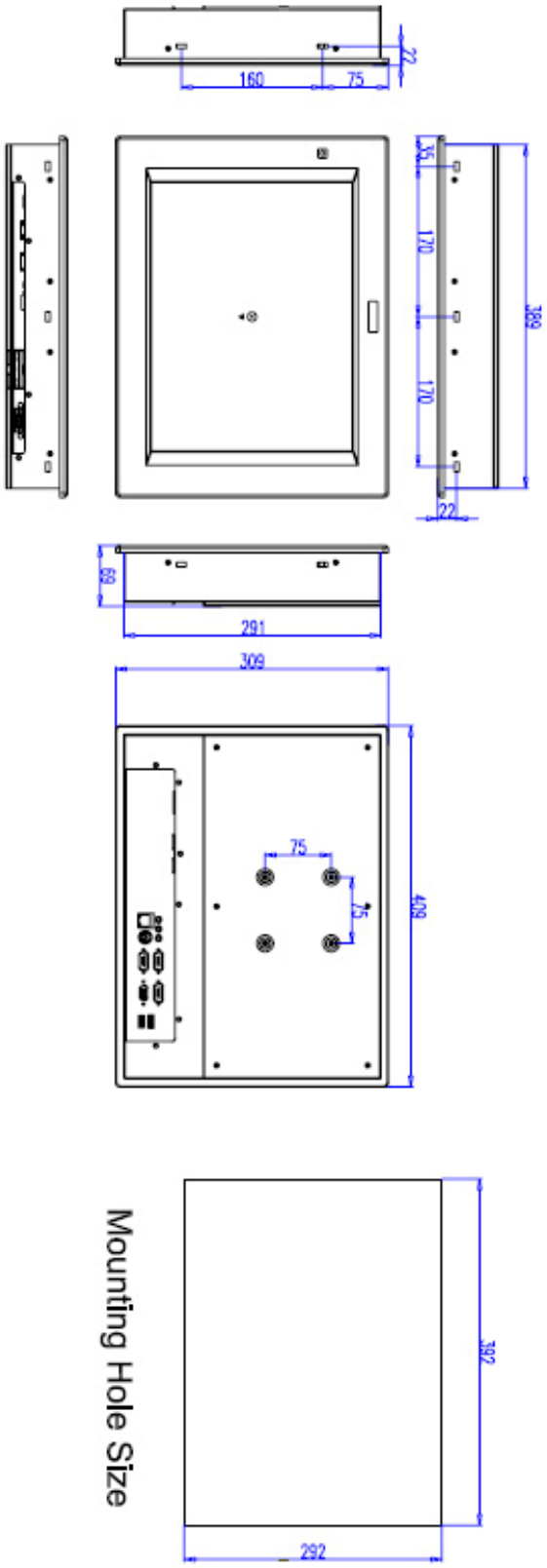


Figure 1.4: Dimension of the EX-96153

1.4 Mainboard

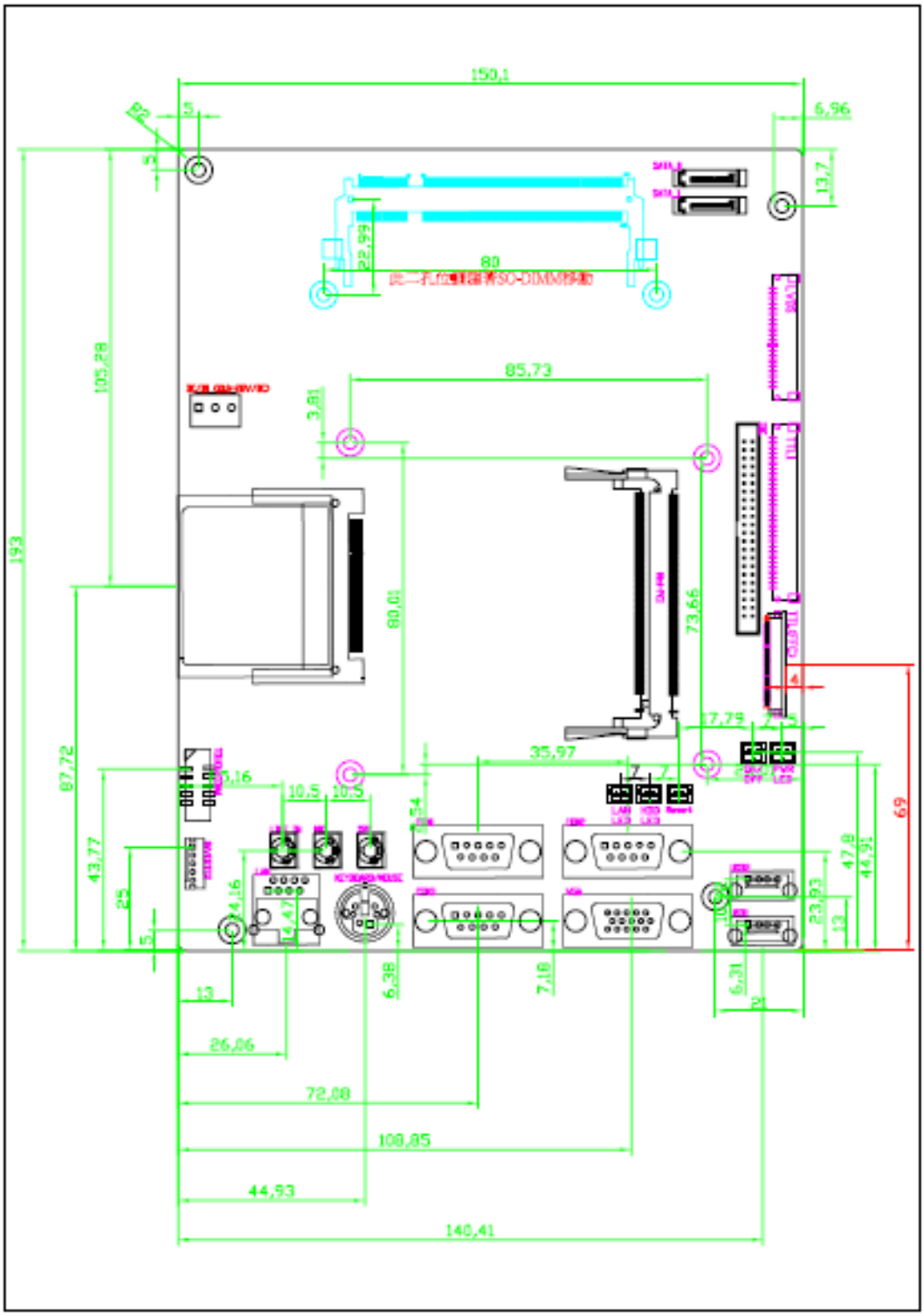


Figure 1.5: Placement of Mainboard

1.5 Specifications

Feature	Items	Description
Board Layout	Detail	· PCB: 6 Layer with double side · Dimensions: 150.1mm x193mm
Processor	CPU	· AMD Geode LX800 500MHz · 64KBI-cache/64KB D-cache · 128KB L2 cache
Chipset		· AMD CS5536
Memory	Type	· One 200-pin SO-DIMM socket, up to 1GB Non-ECC Non-registered DDR SDRAM
	Capacity	· 1GB
Graphic	Graphic Chip	· The Geode LX800 integrated Graphic, supports both standard VGA and TFT
	CRT	· CRT supports up to 1600x1200x32 bpp at 85Hz D_sub 15 CRT VGA connector
	LCD	· DF-14 for 18bit TTL LCD interface · 40-pin FPC for 18bit TTL LCD interface · DF-14 for 18/24bit LVDS interface · 5-pin header for backlight inverter with luminance control by BIOS
Network	LAN Chip	· RJ-45 10/100Base-T support Wake On LAN function · 2-pin LAN LED header
Storage	Compact Flash	· Internal Compact Flash socket x1
	IDE	· 44-pin connector x1, support Ultra DMA 33/66/100 · 2-pin IDE active LED header · On board SATA interface x2 (option)
Audio	AC97	· AC-97 audio interface · 3.5mm phone jack with Speaker-out, Line-in, Mic-in
I/O	Serial Ports	· COM1: RS-232, DB-9 pin#9 RI/5V/12V selectable · COM2: RS-232/422/485 selectable, DB-9 · COM3: RS-232, DB-9 · COM4 for touch screen
	USB 2.0	· External USB 2.0 connector x2 · 2x5 2.0mm pin header for internal USB 2.0 x2

	Others	· PS/2 keyboard/mouse connector x1 · On board Buzzer x1 · 2-pin header for Reset switch · 2-pin header for power on/off switch · 2-pin header for Power LED
Touch Screen	Controller	· On board Penmount DMC9000 support 4/5/8 wire resistive touch, 2x5 2.0mm pin header
IO Expansion	PCI	· Special PCI Interface for Mini PCI Riser Card or others
Power Supply	AT/ATX Mode	· DC 10.8 ~ 28V input support AT and simulate ATX mode
Power Consumption	PW	· TBD
RTC	Battery	· On Chip RTC with battery back up External Li-ion battery x1
Watchdog		· Software programmable support 1~255 sec. system reset
BIOS	Type	· AWARD system BIOS Advanced power management support 4M bits flash ROM
	ACPI Support	· Support software shutdown by internal 5Vsb provided
Driver	Operating Systems	· Windows 2000, Windows XP Windows XP Embedded, Linux WinCE 4.2, WinCE 5.0
Certification	Certification	· Meet CE/FCC Class A
	RoHS	· RoHS component and process
Environment	Operating Temp.	· 0℃ to 60℃ for board level only
	Storage Temp.	· -10℃ to 75℃
	Relative Humidity	· Operating 10%~90%, non-condensing Non-operating 5%~95~, non-condensing

1.6 Brief Description of the EX-96083/96103/96123/96153

The EX-96XX3 Series is a compact, panel-mount industrial fanless touch panel computer with 8”/ 10.4” / 12.1” / 15” TFT LCD. The EX-96XX3 Series is powered by a AMD LX800 500MHz based processor. It comes with a compact flash, 2.5-inch hard disk drive, One 200-pin SO-DIMM socket, up to 1GB, 3 com ports, audio, Ethernet, DC input, and two USB ports. The unit supports Windows 2000 Professional, Windows XP, and CE.Net. The compact, fanless touch panel computer is ideal for use as Web Browser, Terminal and HMI at all levels of automation control.

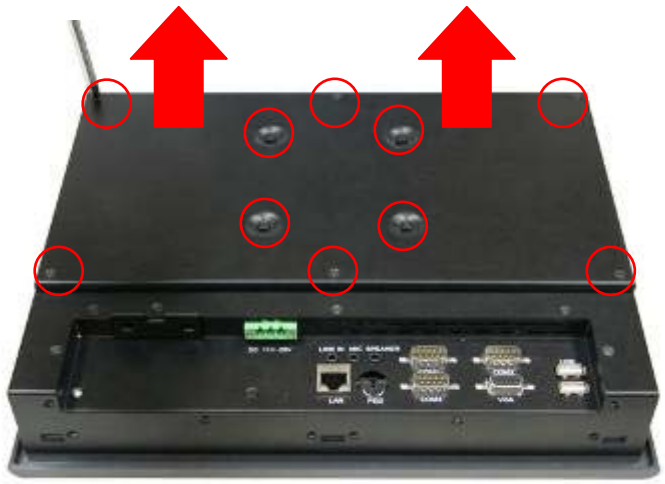
Figure 1.6: Front View of EX-96103/96123/96153

Figure 1.7: Rear View of EX-96103/96123/96153

Chapter 2 Hardware Installation

2.1 Removing of Chassis Cover

There are 10 screws to deal with when enclosing or removing the chassis.
Removing top cover by loosened all screws.



2.2 Removing HDD Cable from Its Place

Just take off the HDD Cable from its place

2.3 Removing HDD Rack

Remove the HDD rack by loosening the four screws as circled.

2.4 Enclosing and Fastening the HDD

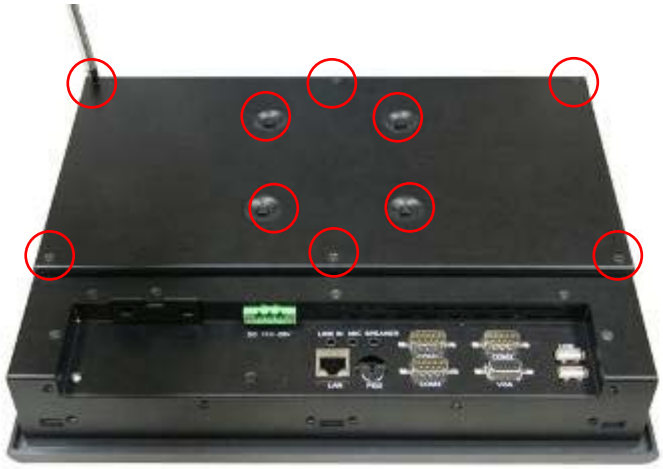
Put the HDD in its place by tightening the four screws as circled

2.5 Placing Back the HDD-installed Rack into Position

Tighten the two screws as circled to put the H6D-installed rack into position.

2.5 Closing Chassis

Close the chassis in the same way as it was opened. Just tighten the 10 screws as circled and the installation of the EX-96103/96123/ 96153 is completely done.



2.7 Panel Mounting

The EX-96xx3 HMI Controller is designed to be panel-mounted as shown in Figure 2.1. Just carefully place the unit through the hole and tighten the given 9 screws from the rear to secure the mounting.

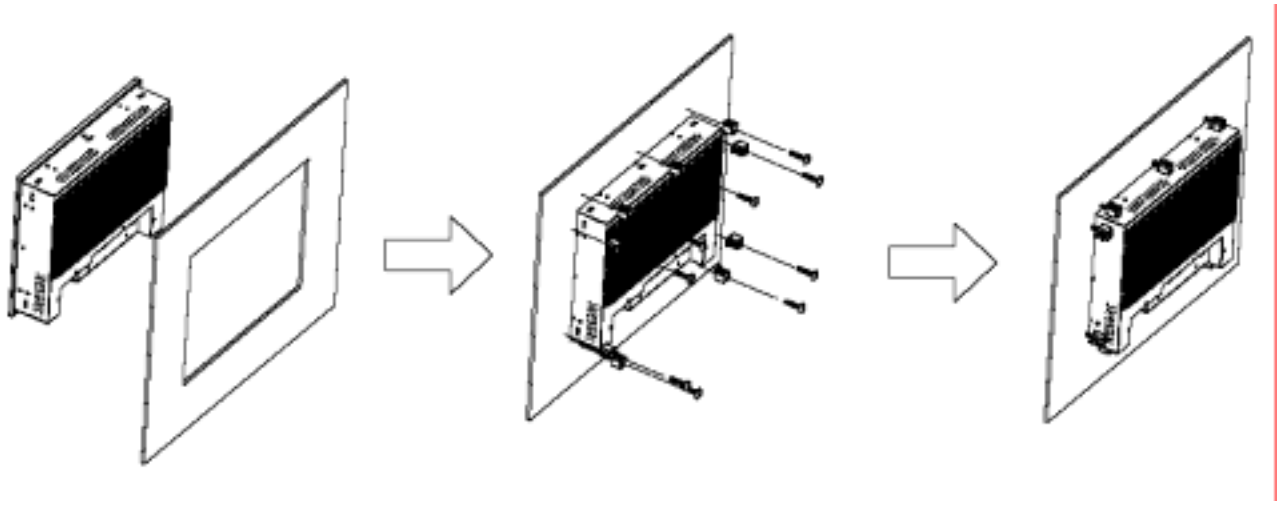


Figure 2.1: Panelmounting of EX-96083/96103/96123/96153

Chapter 3 Award BIOS Setup

3.1 System Test and Initialization

These routines test and initialize board hardware. If the routines encounter an error during the tests, you will either hear a few short beeps or see an error message on the screen. There are two kinds of errors: fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors. Non-fatal error messages usually appear on the screen along with the following instructions:

Press <F1> to RESUME

Write down the message and press the F1 key to continue the boot up sequence.

System configuration verification

These routines check the current system configuration against the values stored in the CMOS memory. If they do not match, the program outputs an error message. You will then need to run the BIOS setup program to set the configuration information in memory.

There are three situations in which you will need to change the CMOS settings:

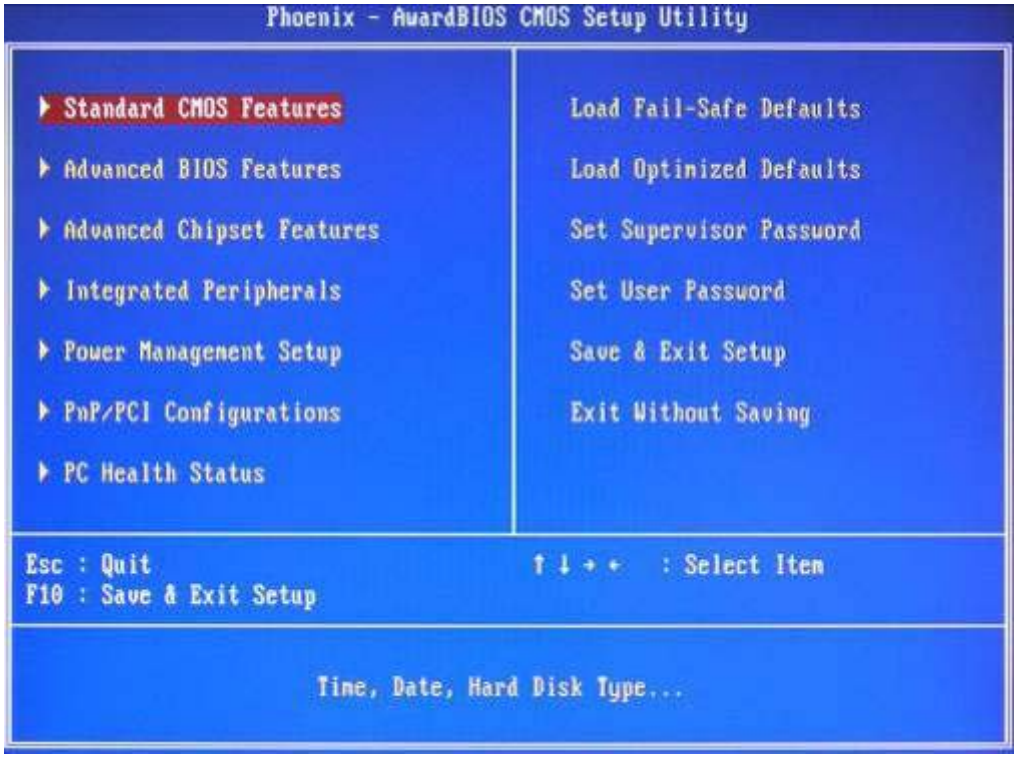
1. You are starting your system for the first time
2. You have changed the hardware attached to your system
3. The CMOS memory has lost power and the configuration information has been erased.

3.2 Award BIOS Setup

Awards BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

Entering Setup

Power on the computer and press <Del> immediately. This will allow you to enter Setup.



Standard CMOS Features

Use this menu for basic system configuration. (Date, time, IDE, etc.)

Advanced BIOS Features

Use this menu to set the advanced features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers, optimize your system performance and set up output display.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals. (Primary slave, secondary slave, keyboard, mouse etc.)

Power Management Setup

Use this menu to specify your settings for power management. (HDD power down, power on by ring, KB wake up, etc.)

PnP/PCI Configurations

This entry appears if your system supports PnP/PCI.

PC Health Status

This menu allows you to set the shutdown temperature for your system.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While AWARD has designated the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

Set Supervisor Password/User Password
Use this menu to set Supervisor and User Password.

Save and Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

Chapter 4 Software Utilities

4.1 Introduction

A support CD-ROM for EX-96xx3 is available and along with product. There are related utilities and drivers of EX-96xx3 for Windows XP. Please insert the support CD-ROM into your CD-ROM bay and install the Geode GX3 AES Crypto Driver, Audio Driver, Graphics Driver, RAID Controller and Touch Panel Driver.

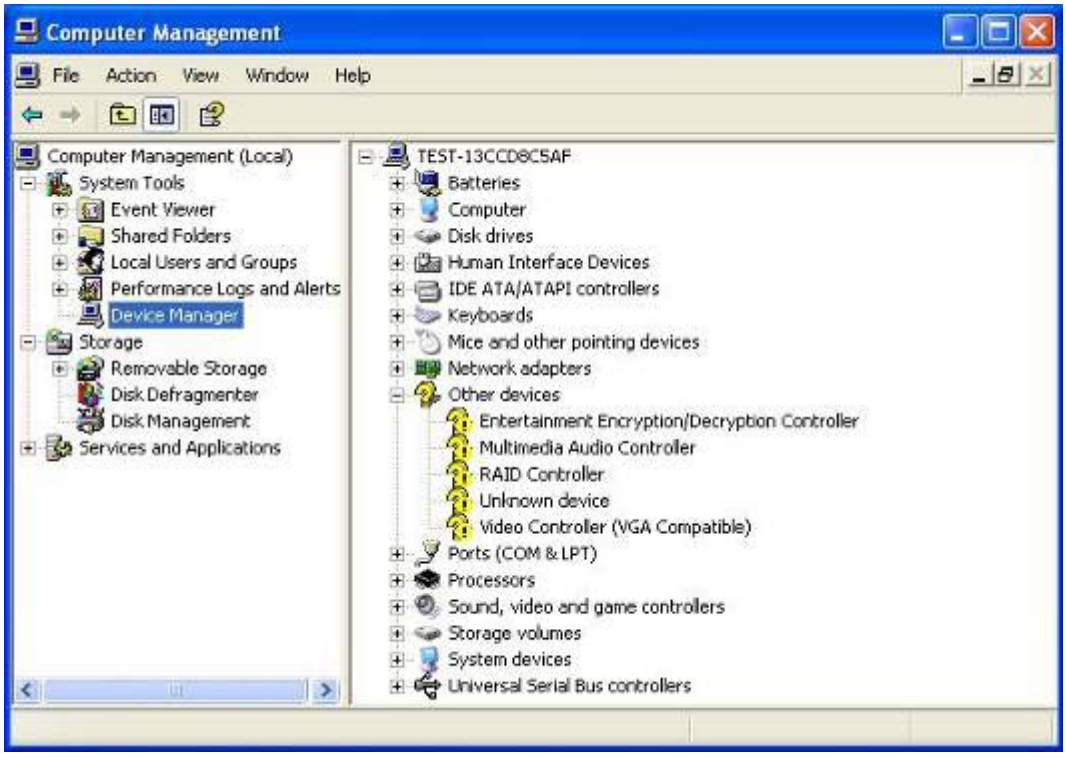
Please kindly refer to the following chart:

Filename **(Assume that CD ROM drive is D:)**	**Purpose**
D:\driver\Castle_XP_WDM_AES_v2.00.03	Geode GX3 AES Crypto Driver (Entertainment Encryption/ Decryption Controller)
D:\driver\Castle_XP_WDM_Audio_V2.01.04	Geode GX3 Audio Driver (WDM) (Multimedia Audio Controller)
D:\driver\Castle_XP_XPe-Graphics_v2.01.05	Advanced Micro Device Win XP Graphics Drives (Video Controller-VGA Compatible)
D:\driver\vt6421	VIA VT6421 RAID Controller
C:\Program Files\PenMount Universal Driver	Touch Panel Driver

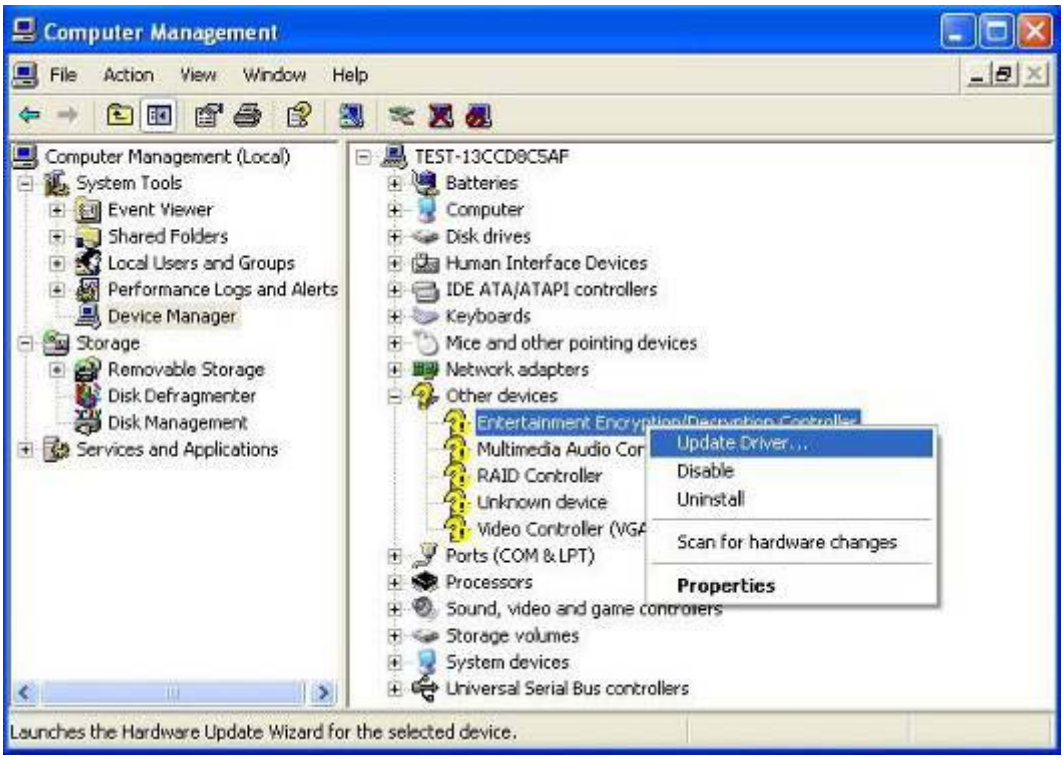
4.2. Geode GX3 AES Crypto Driver

Please follow the steps to install Geode GX3 AES Crypto Driver.

Step 1: Insert the CD-ROM and go to “Device Manager”. Click “Entertainment Encryption/ Decryption Controller”



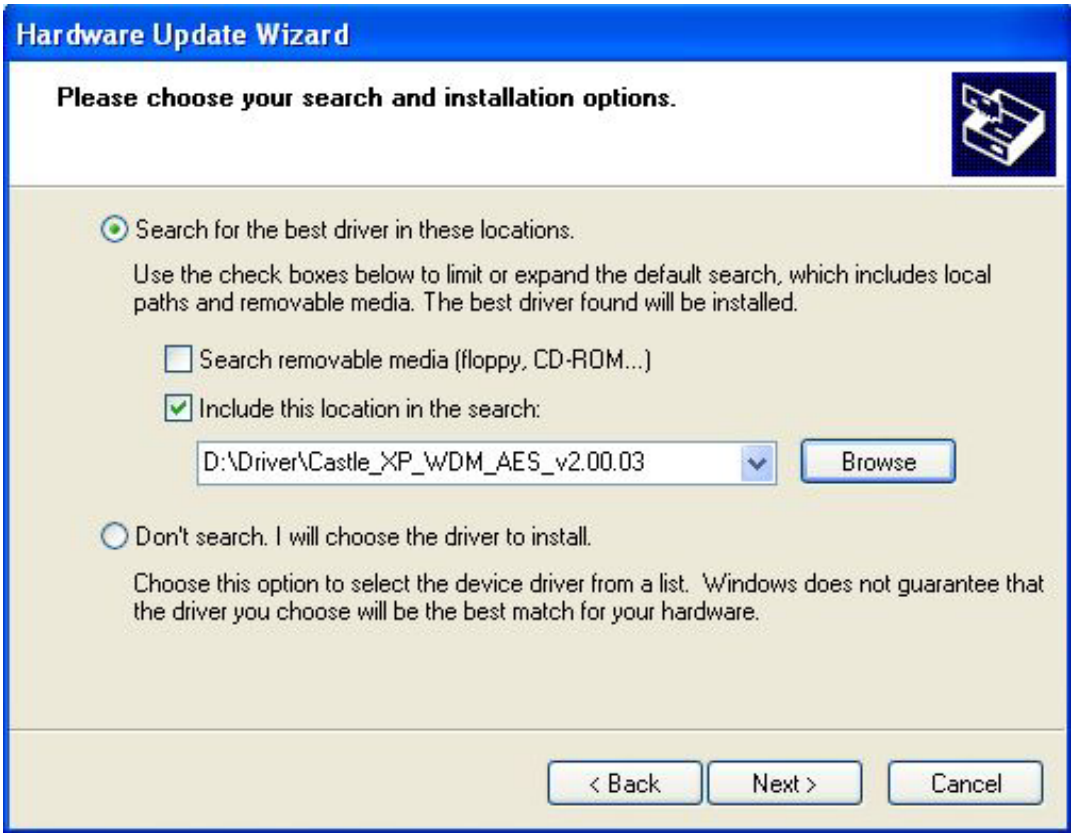
Step 2: Please go to “Driver” tab to update the driver

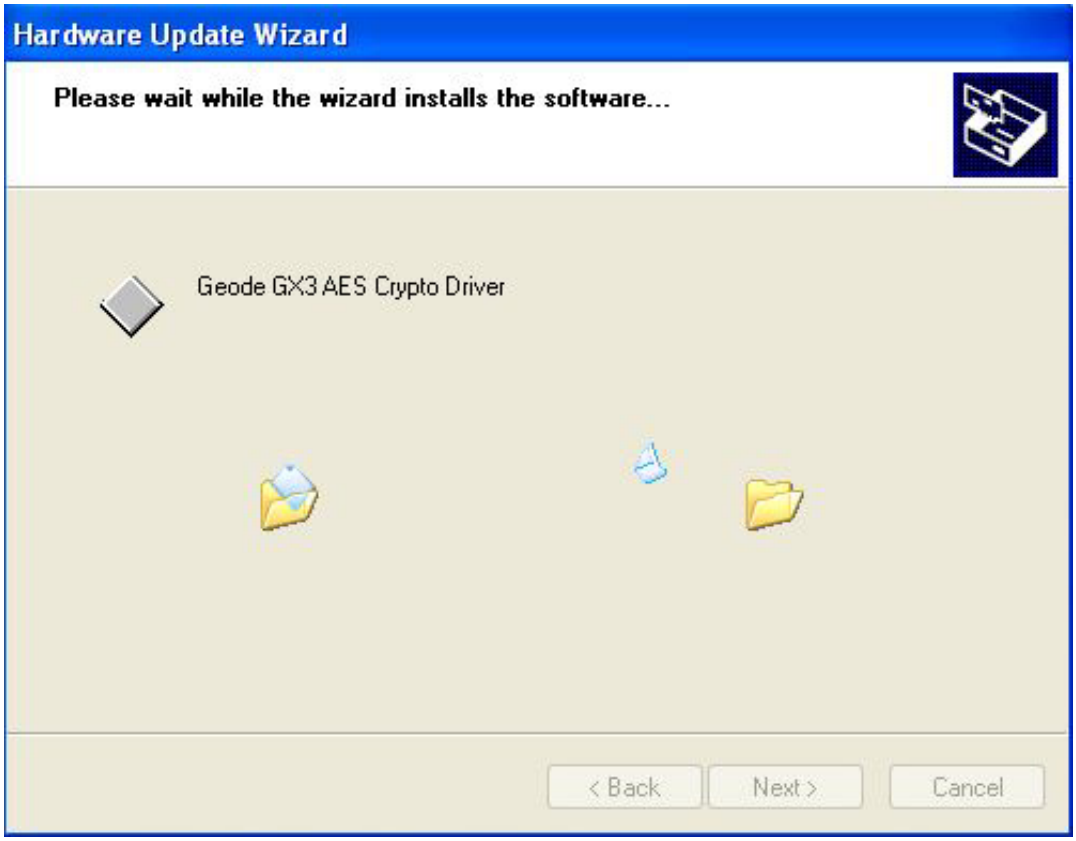


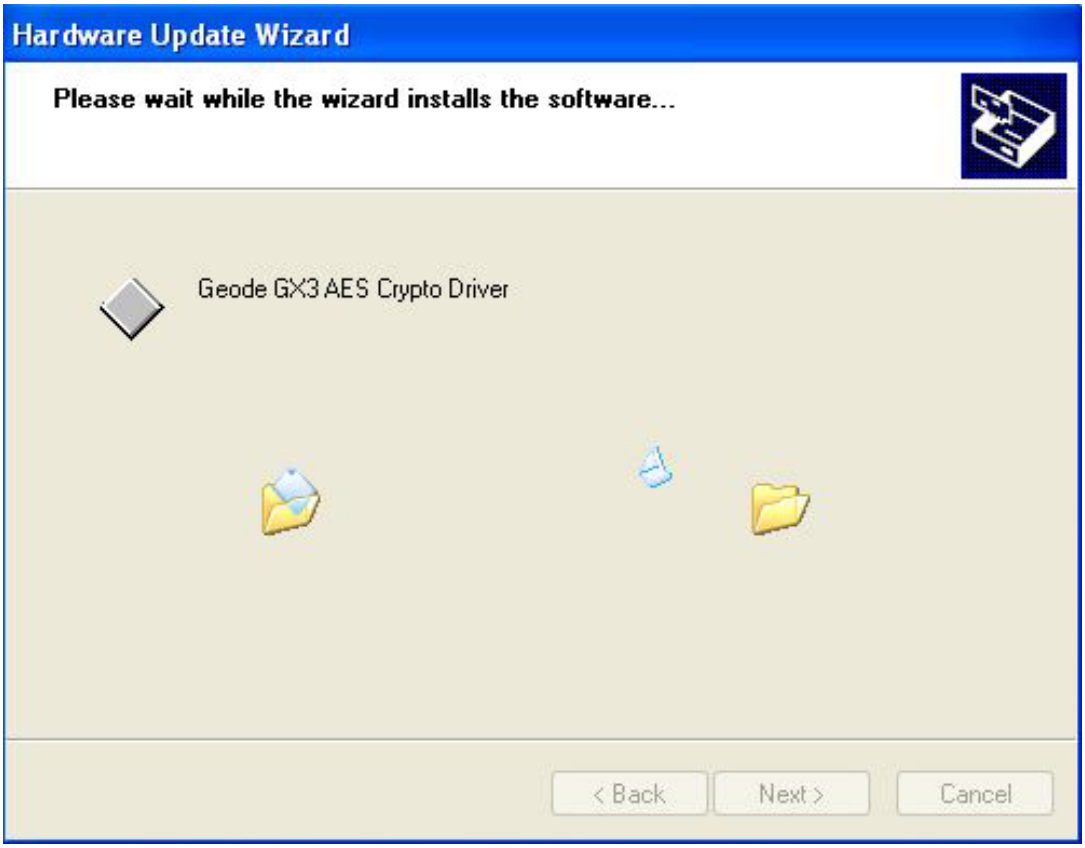
Step 3: Then follow the update Wizard processors.

Hardware Update Wizard
Welcome to the Hardware Update Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

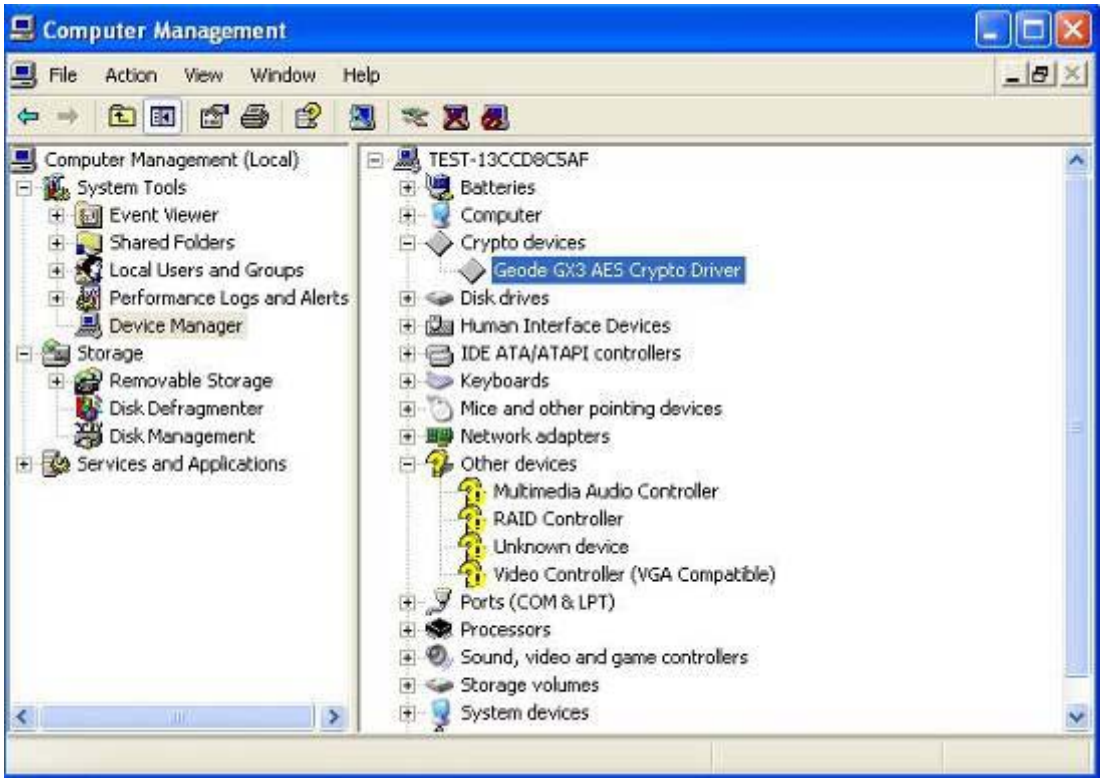
Hardware Update Wizard
This wizard helps you install software for:
Entertainment Encryption/Decryption Controller
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
D:\Driver\Castle_XP_WDM_AES_v2.00.03
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel


Hardware Update Wizard
Please wait while the wizard installs the software...
Geode GX3 AES Crypto Driver
< Back
Next >
Cancel


Hardware Update Wizard
Please wait while the wizard installs the software...
Geode GX3 AES Crypto Driver
< Back
Next >
Cancel

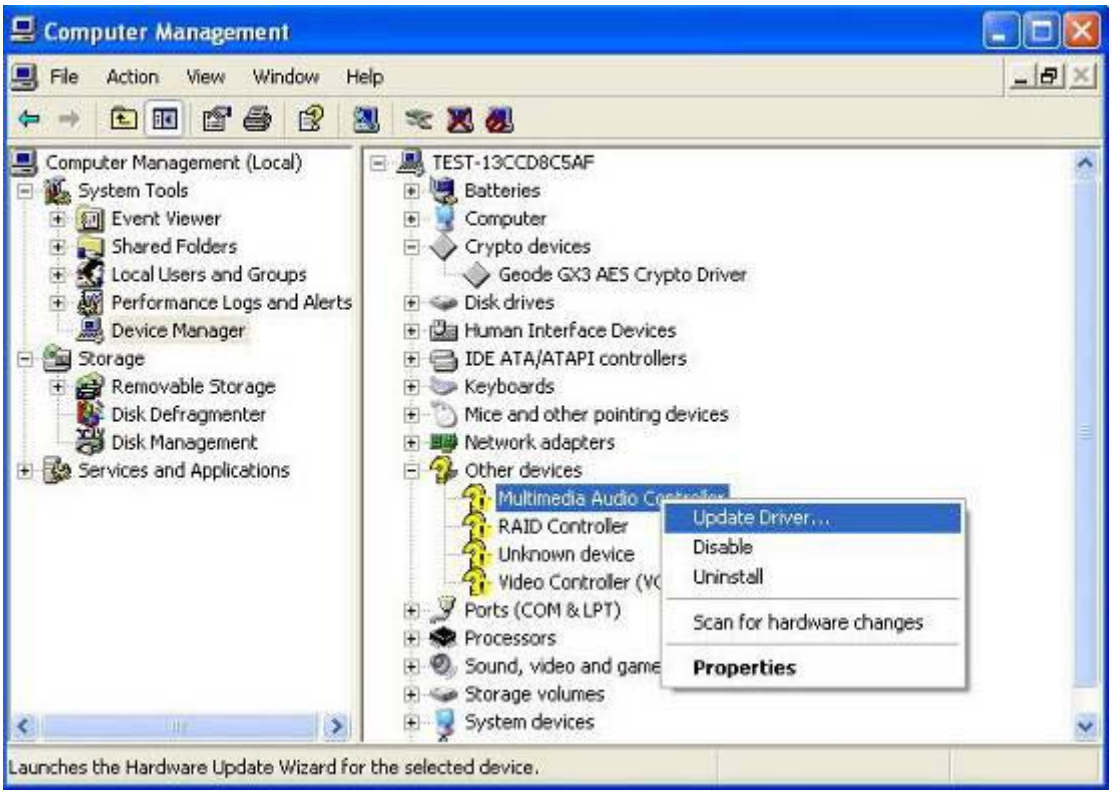
Step 4: After you successfully update the driver, you can see the successfully installed from the device manager.



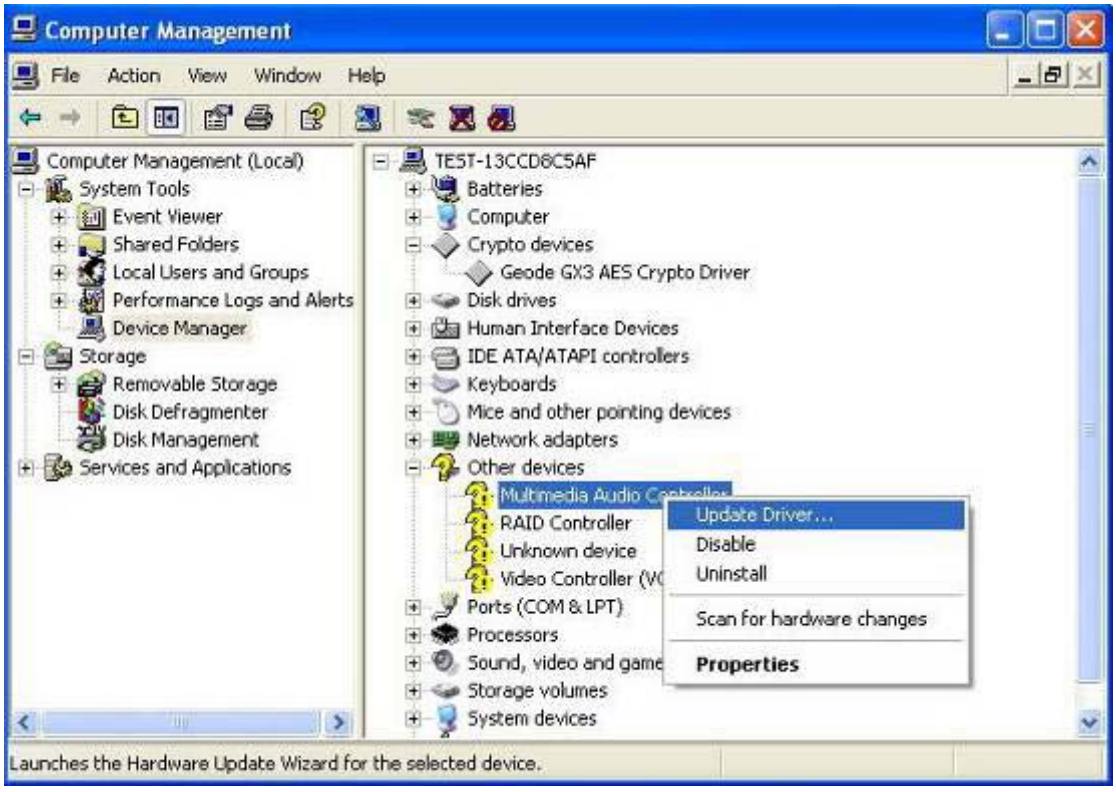
4.3 Geode GX3 Audio Driver

Please follow the steps to install Geode GX3 Audio Driver.

Step 1: Please go to “Device Manager”. Click “Multimedia Audio Controller”



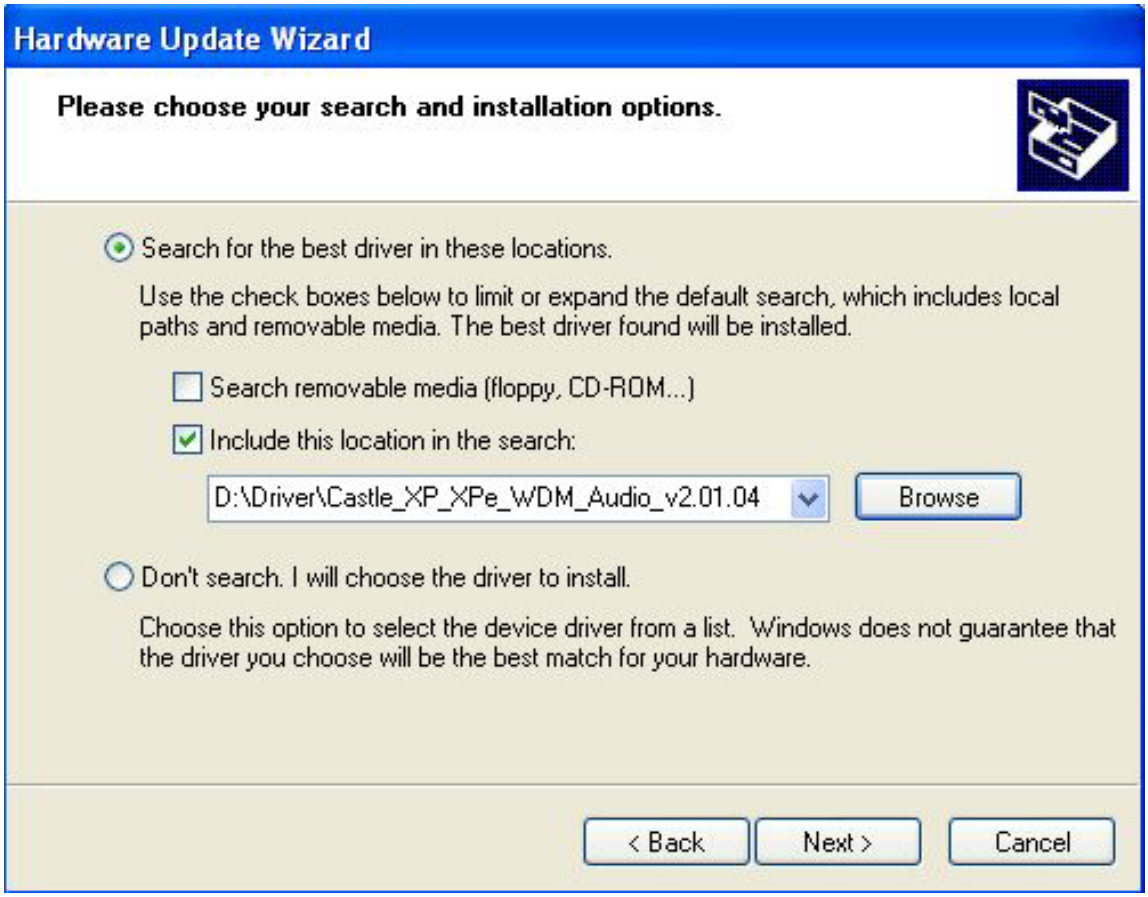
Step 2: Please go to “Driver” tab to update the driver

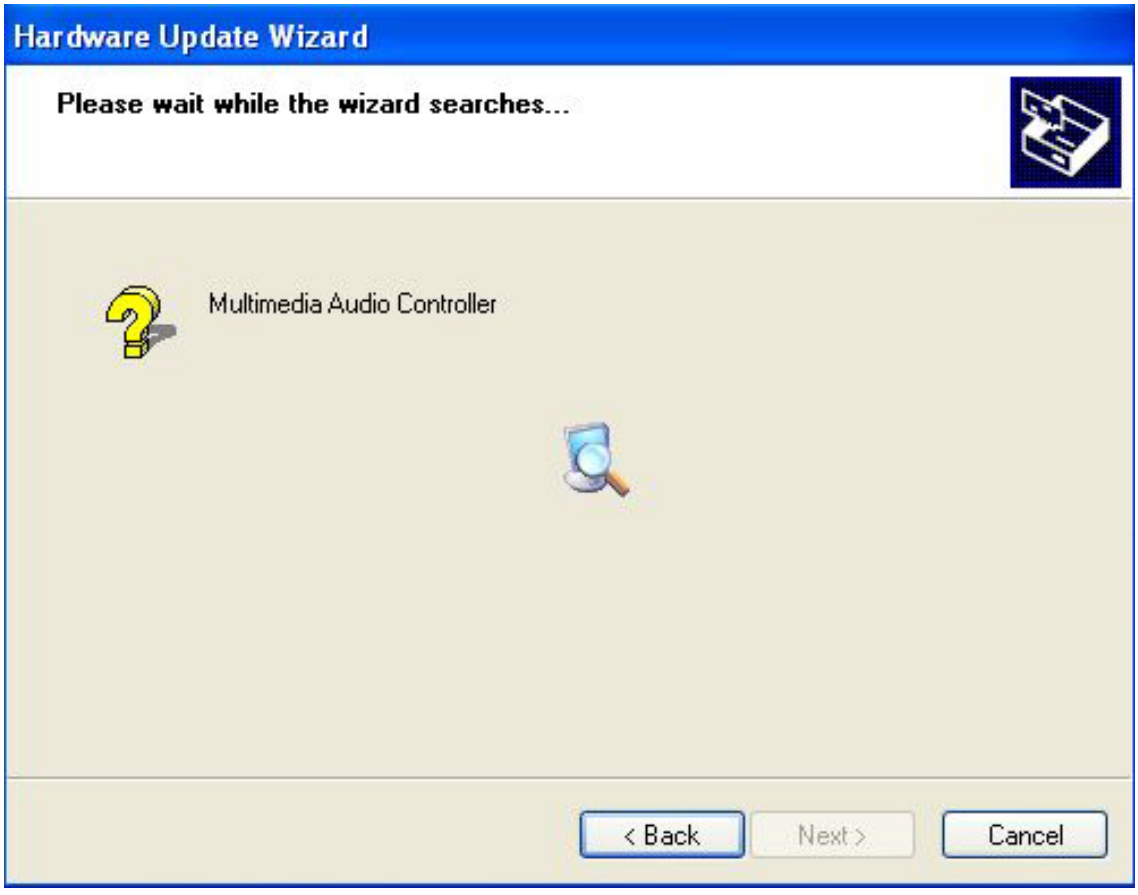


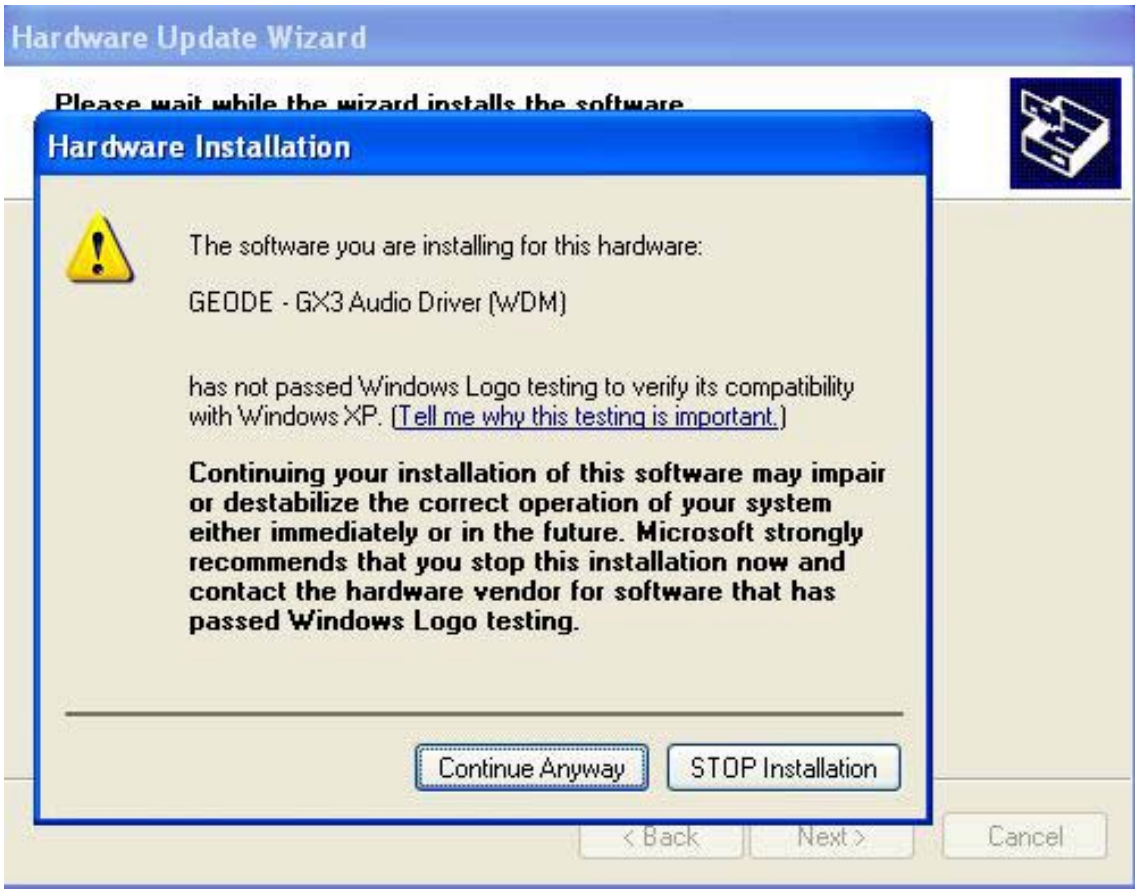
Step 3: Then follow the update Wizard processors.

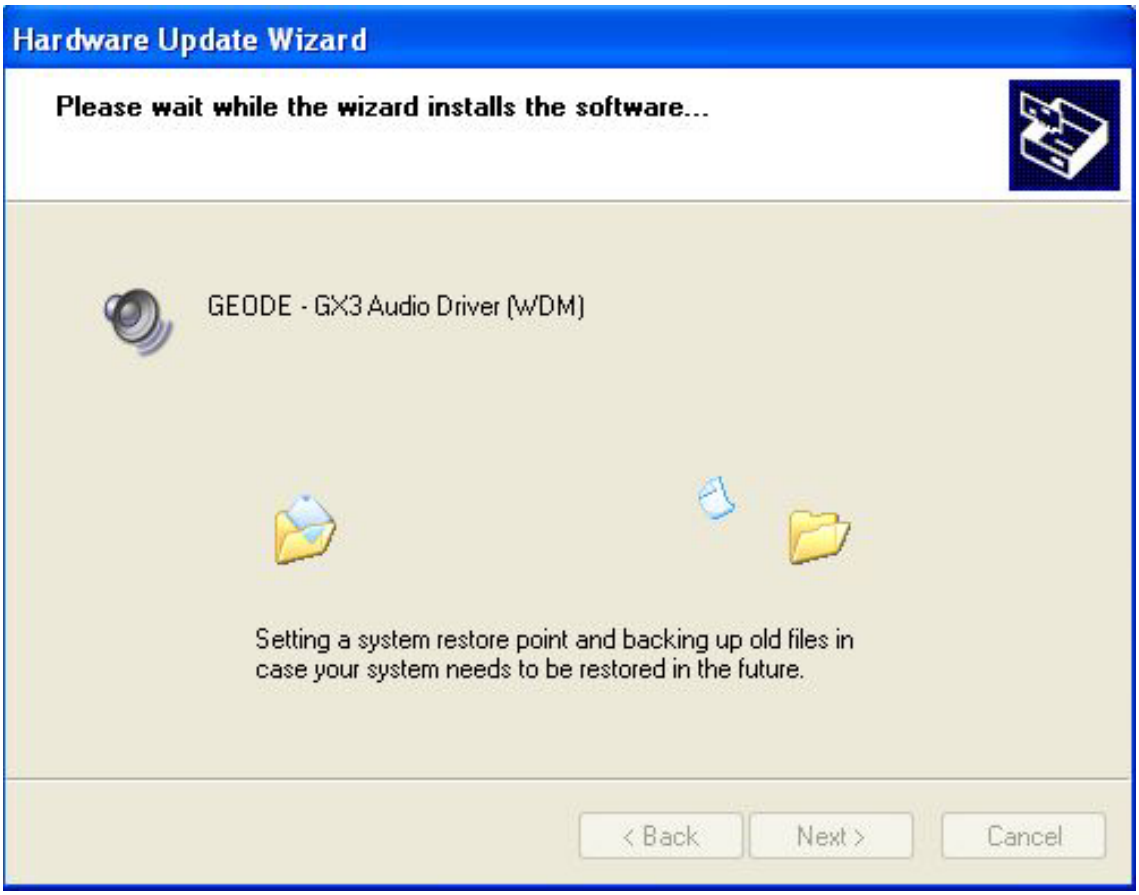
Hardware Update Wizard
Welcome to the Hardware Update Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Hardware Update Wizard
This wizard helps you install software for:
Entertainment Encryption/Decryption Controller
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
D:\Driver\Castle_XP_XPe_WDM_Audio_v2.01.04
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

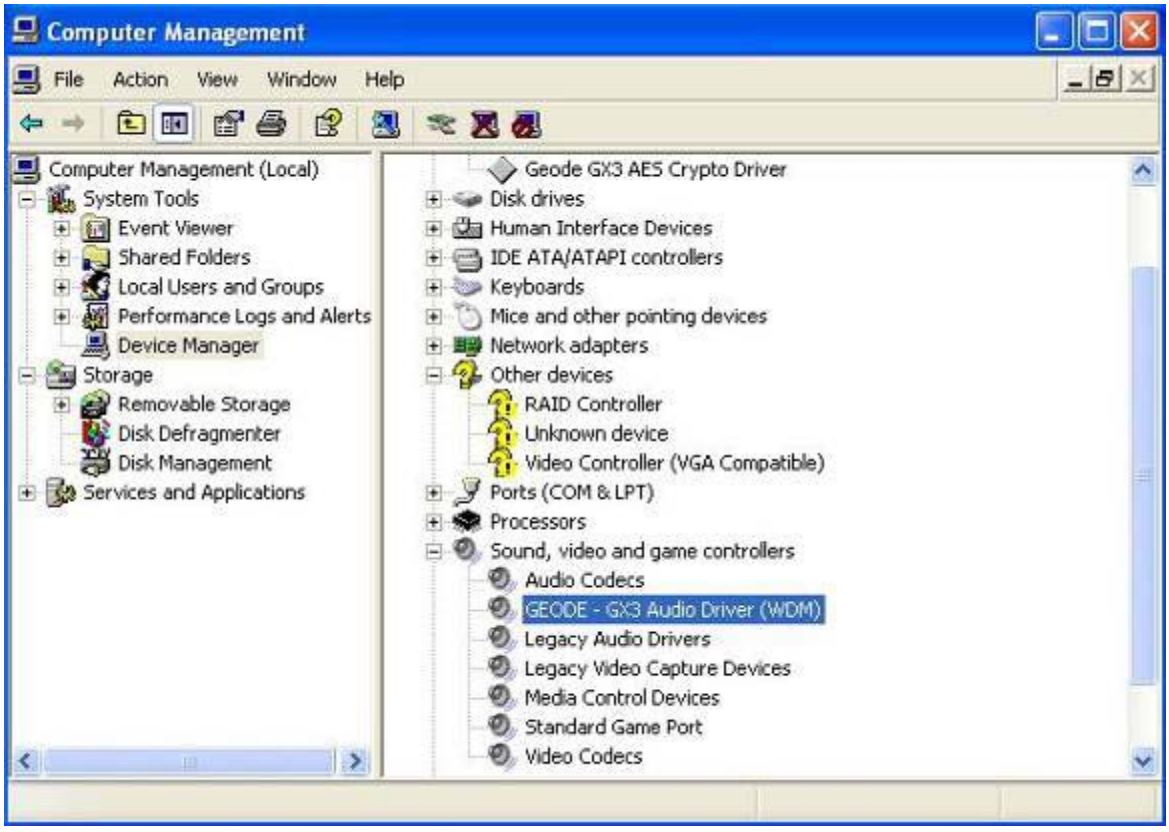

Hardware Update Wizard
Please wait while the wizard searches...
Multimedia Audio Controller
< Back
Next >
Cancel


Hardware Update Wizard
Please wait while the wizard installs the software
Hardware Installation
The software you are installing for this hardware:
GEODE - GX3 Audio Driver (WDM)
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation
< Back
Next >
Cancel


Hardware Update Wizard
Please wait while the wizard installs the software...
GEODE - GX3 Audio Driver (WDM)
Setting a system restore point and backing up old files in case your system needs to be restored in the future.
< Back
Next >
Cancel

Hardware Update Wizard
Completing the Hardware Update Wizard
The wizard has finished installing the software for:
GEODE - GX3 Audio Driver (WDM)
Click Finish to close the wizard.
< Back
Finish
Cancel

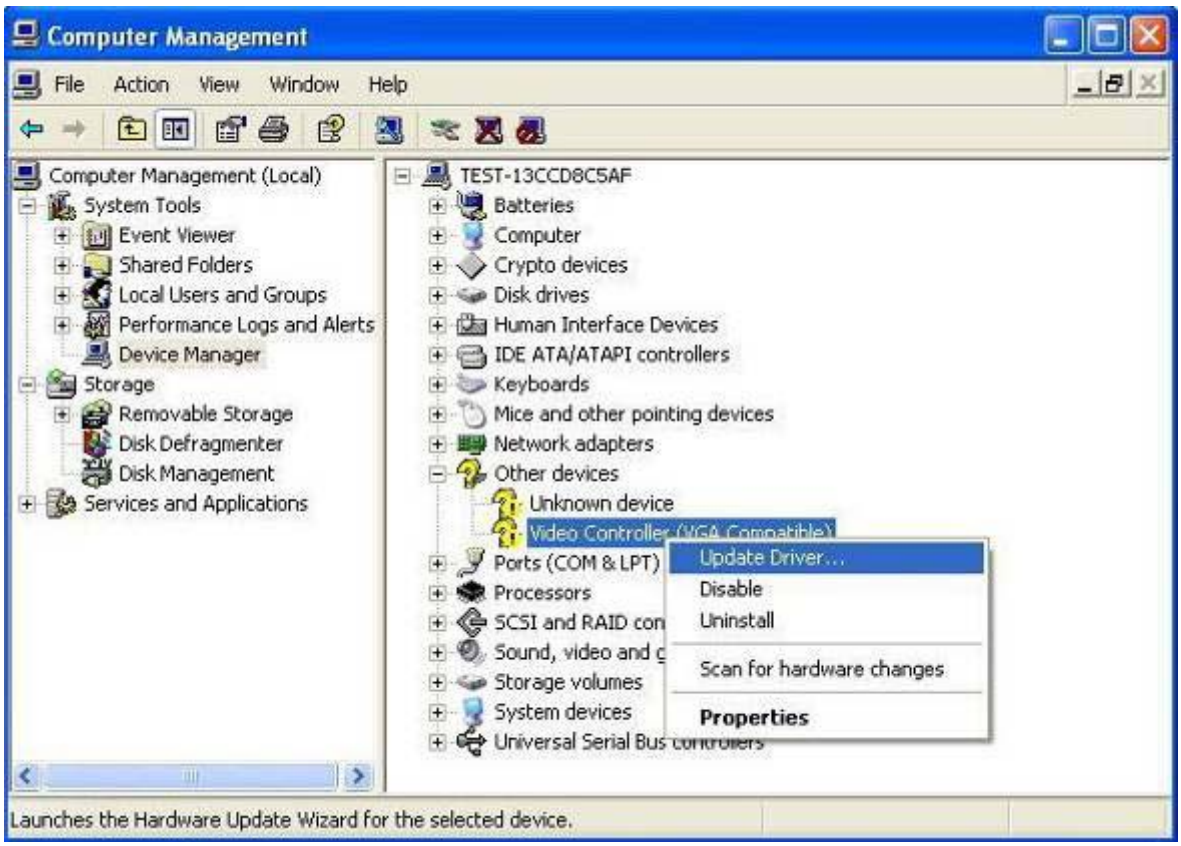
Step 4: After you successfully update the driver, you can see the successfully installed from the device manager.



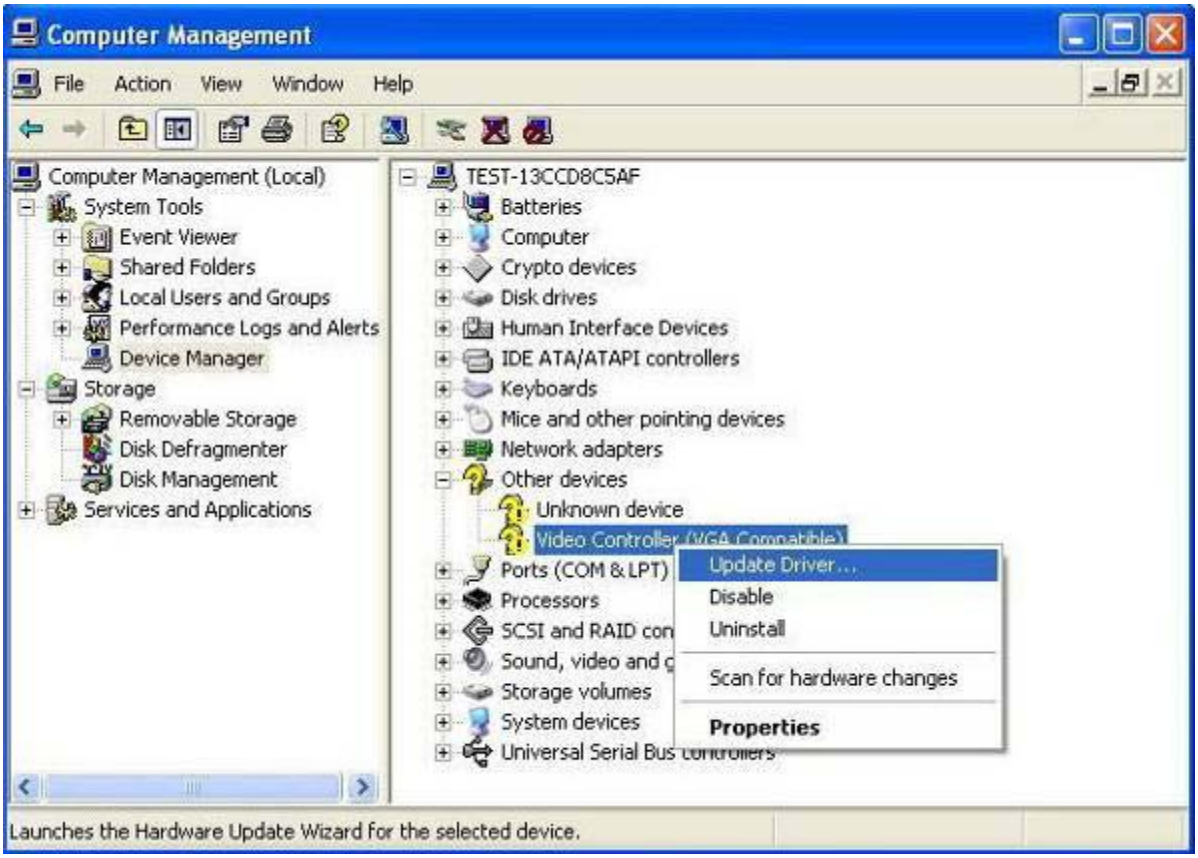
4.4 Advance Micro Devices Win XP Graphics driver

Please follow the steps to install Graphics Driver.

Step 1: Please go to “Device Manager”. Click “Video Controller (VGA compatible)”

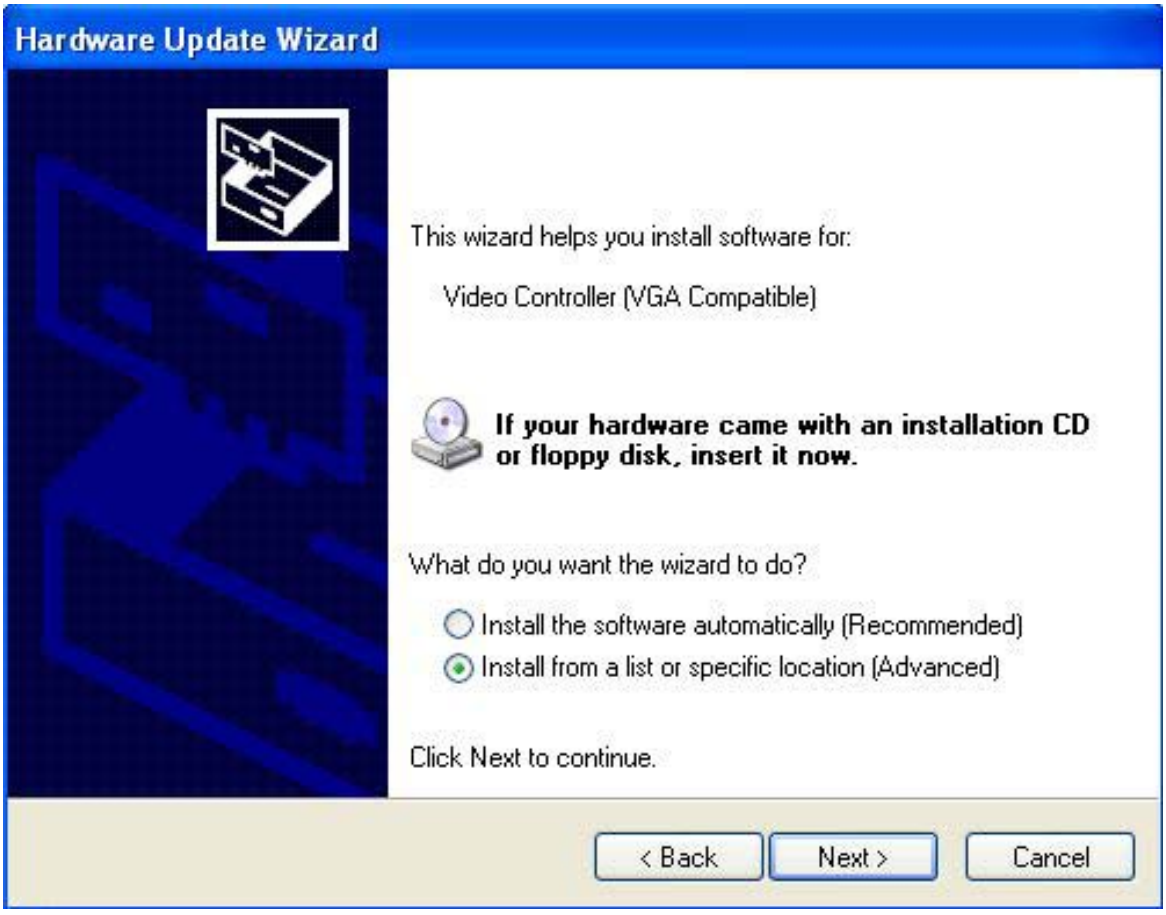


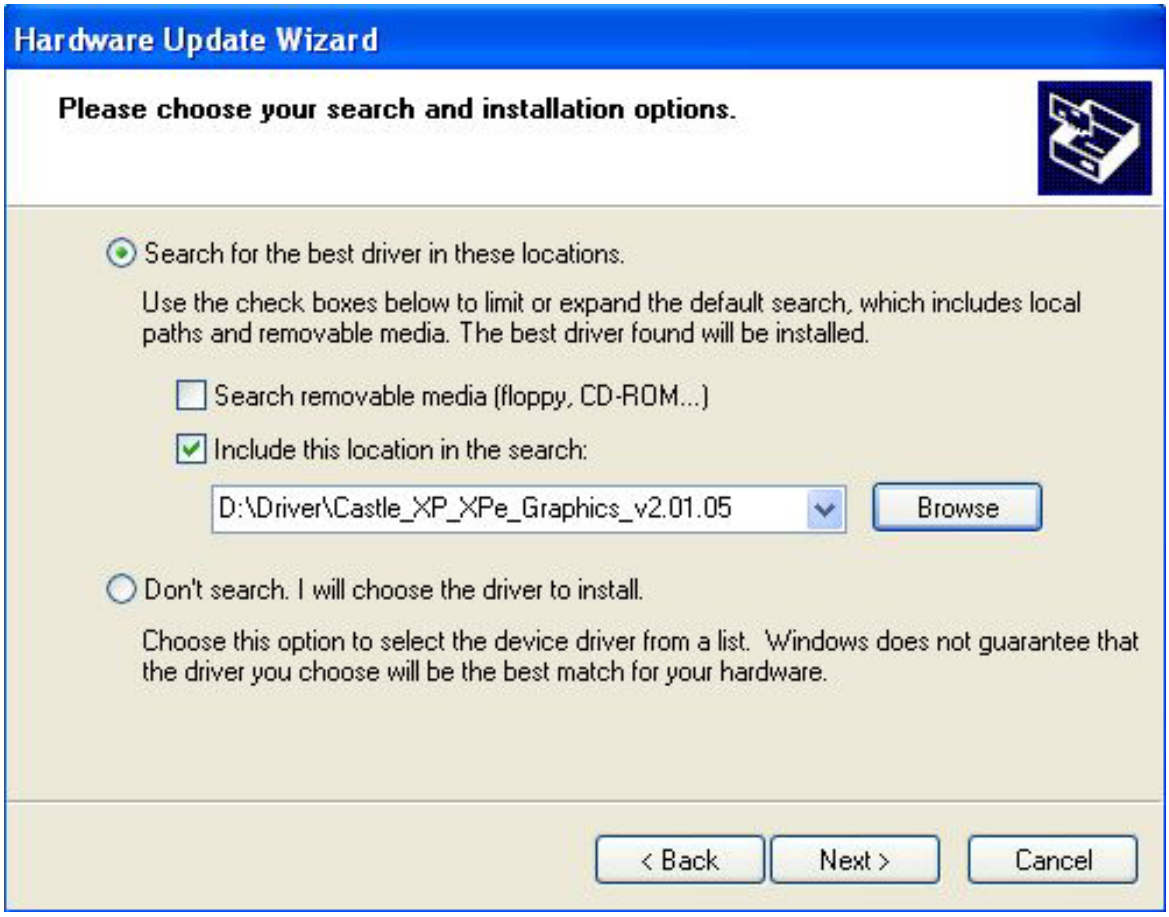
Step 2: Please go to “Driver” tab to update the driver

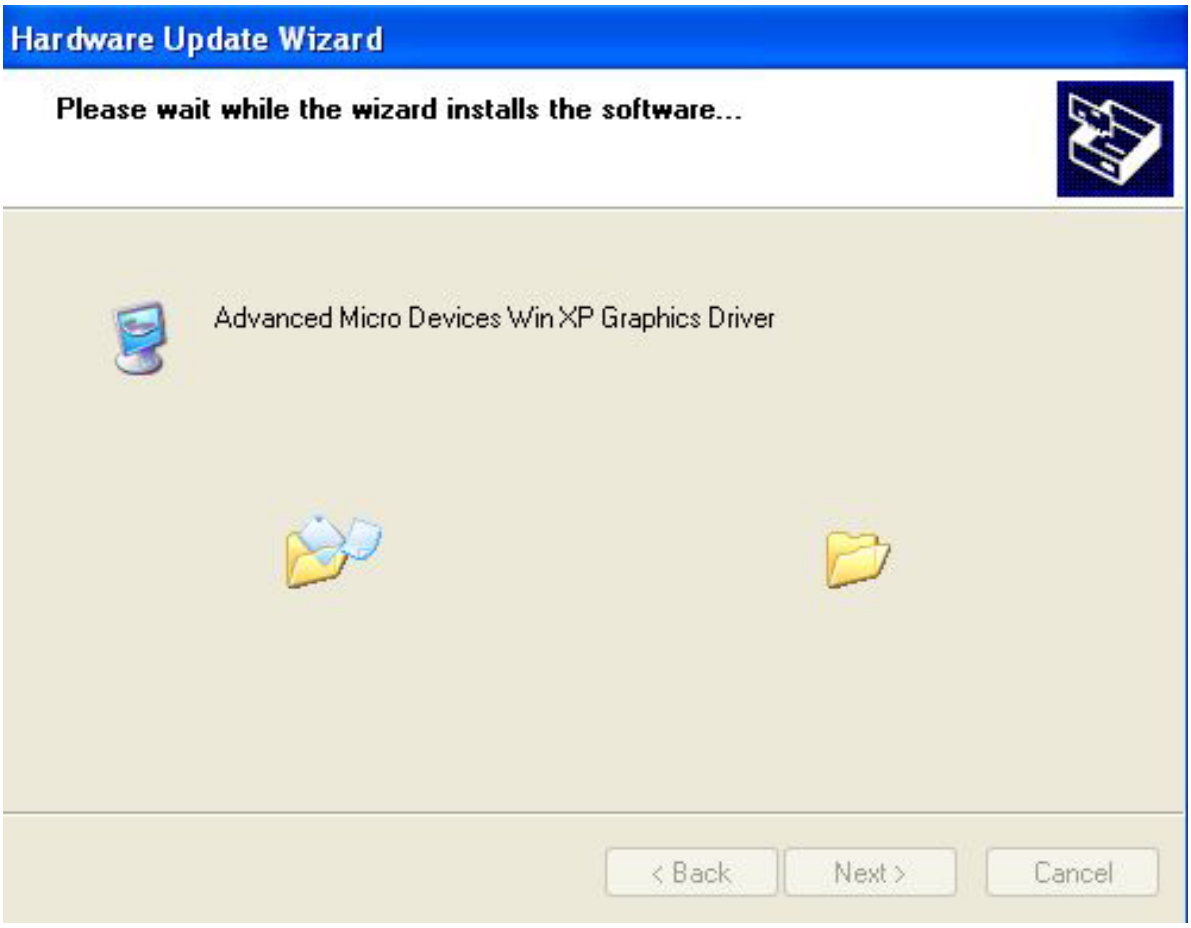


Step 3: Then follow the update Wizard processors.

Hardware Update Wizard
Welcome to the Hardware Update Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel


Hardware Update Wizard
This wizard helps you install software for:
Video Controller (VGA Compatible)
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

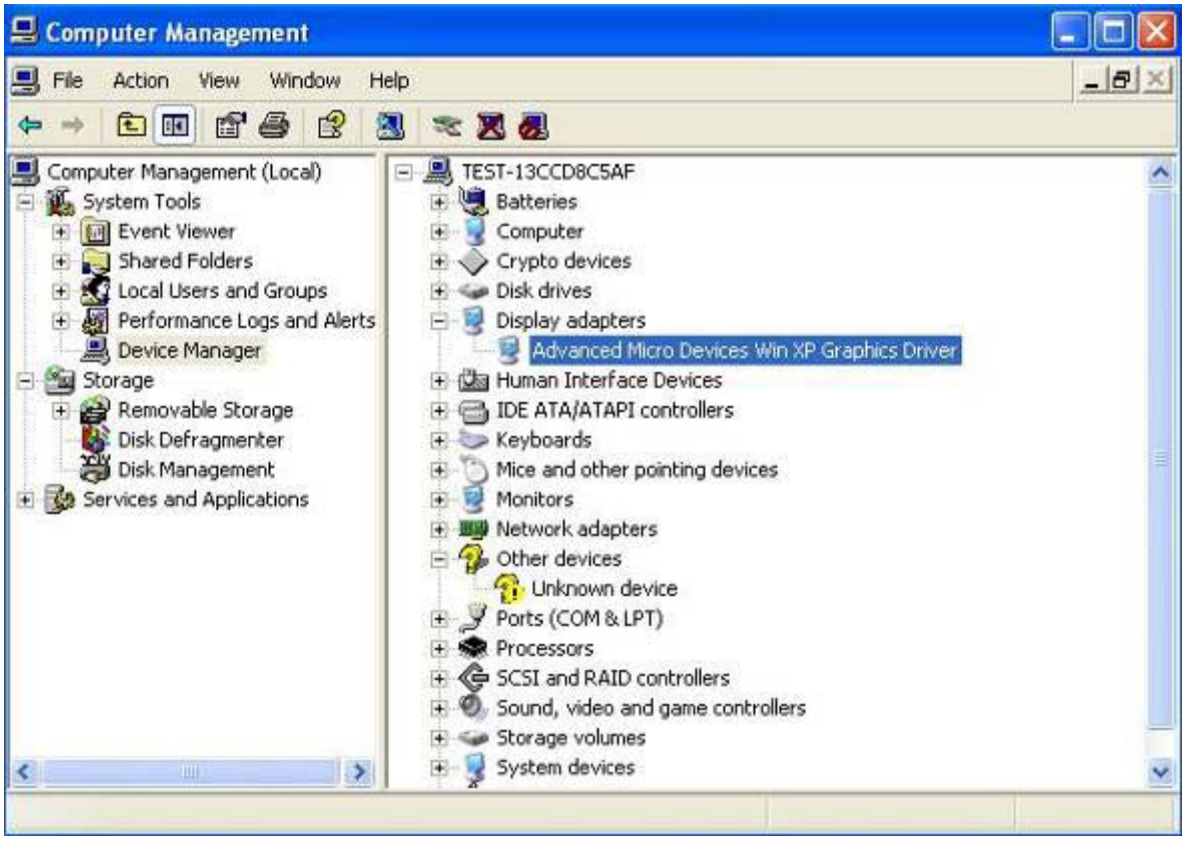

Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
D:\Driver\Castle_XP_XPe_Graphics_v2.01.05
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel


Hardware Update Wizard
Please wait while the wizard installs the software...
Advanced Micro Devices Win XP Graphics Driver
< Back
Next >
Cancel

Hardware Update Wizard
Please wait while the wizard installs the software...
Hardware Installation
The software you are installing for this hardware:
Advanced Micro Devices Win XP Graphics Driver
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation
Cancel

Hardware Update Wizard
Completing the Hardware Update Wizard
The wizard has finished installing the software for:
Advanced Micro Devices Win XP Graphics Driver
Click Finish to close the wizard.
< Back
Finish
Cancel

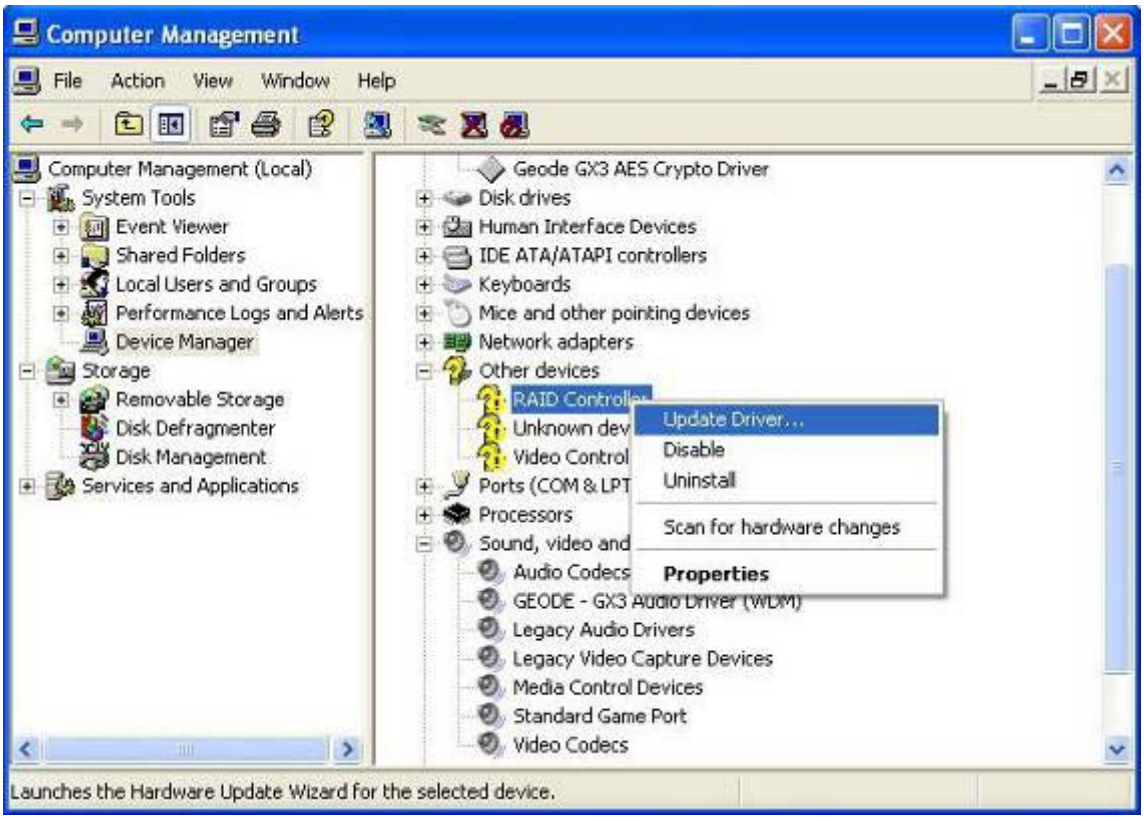
Step 4: After you successfully update the driver, you can see the successfully installed from the device manager.



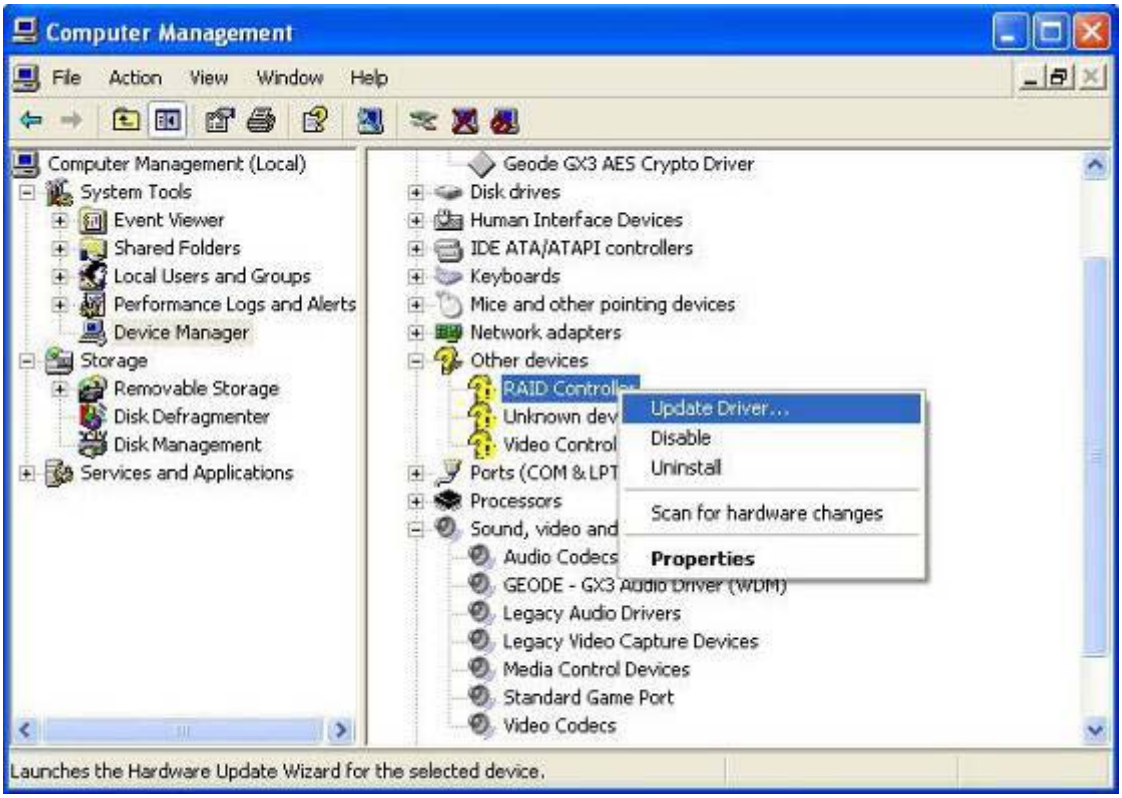
4.5 VIA VT6421 RAID Controller

Please follow the steps to install RAID Driver.

Step 1: Please go to “Device Manager”. Click “RAID Controller”



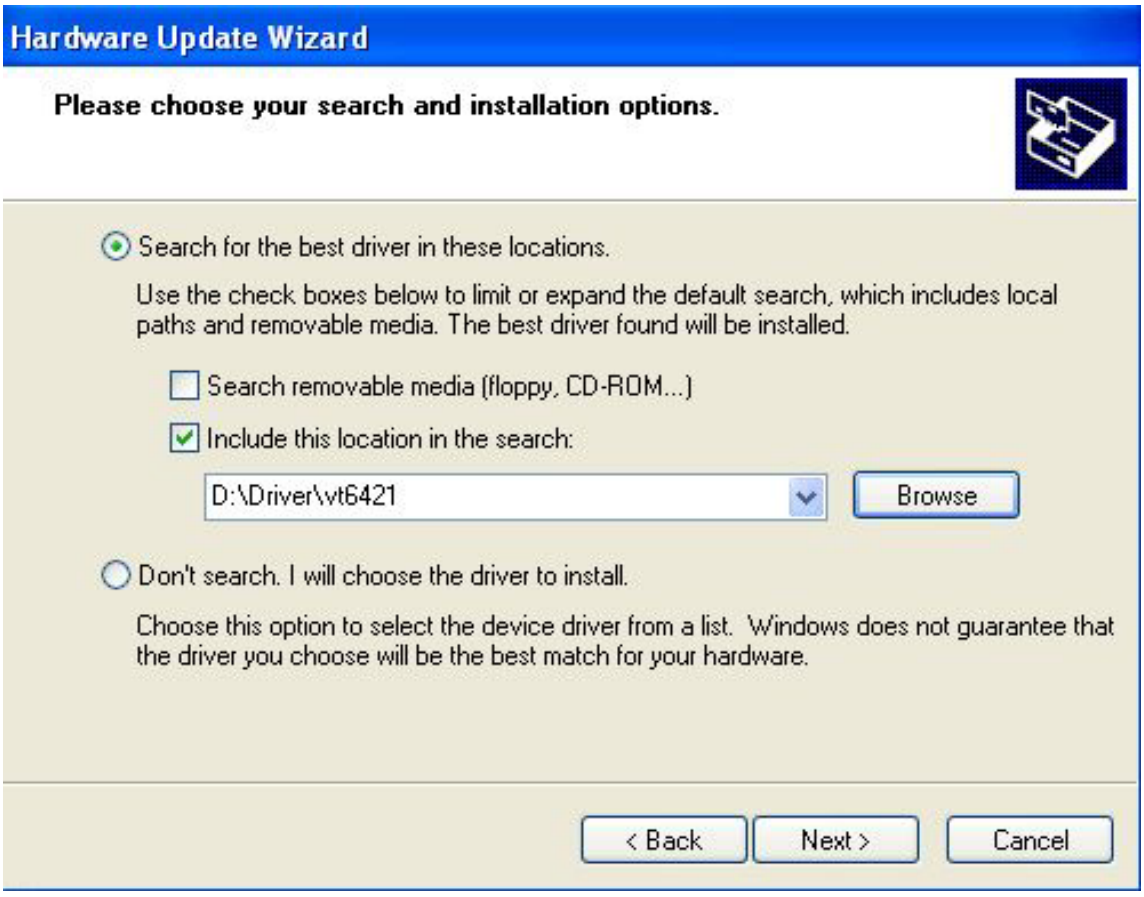
Step 2: Please go to “Driver” tab to update the driver

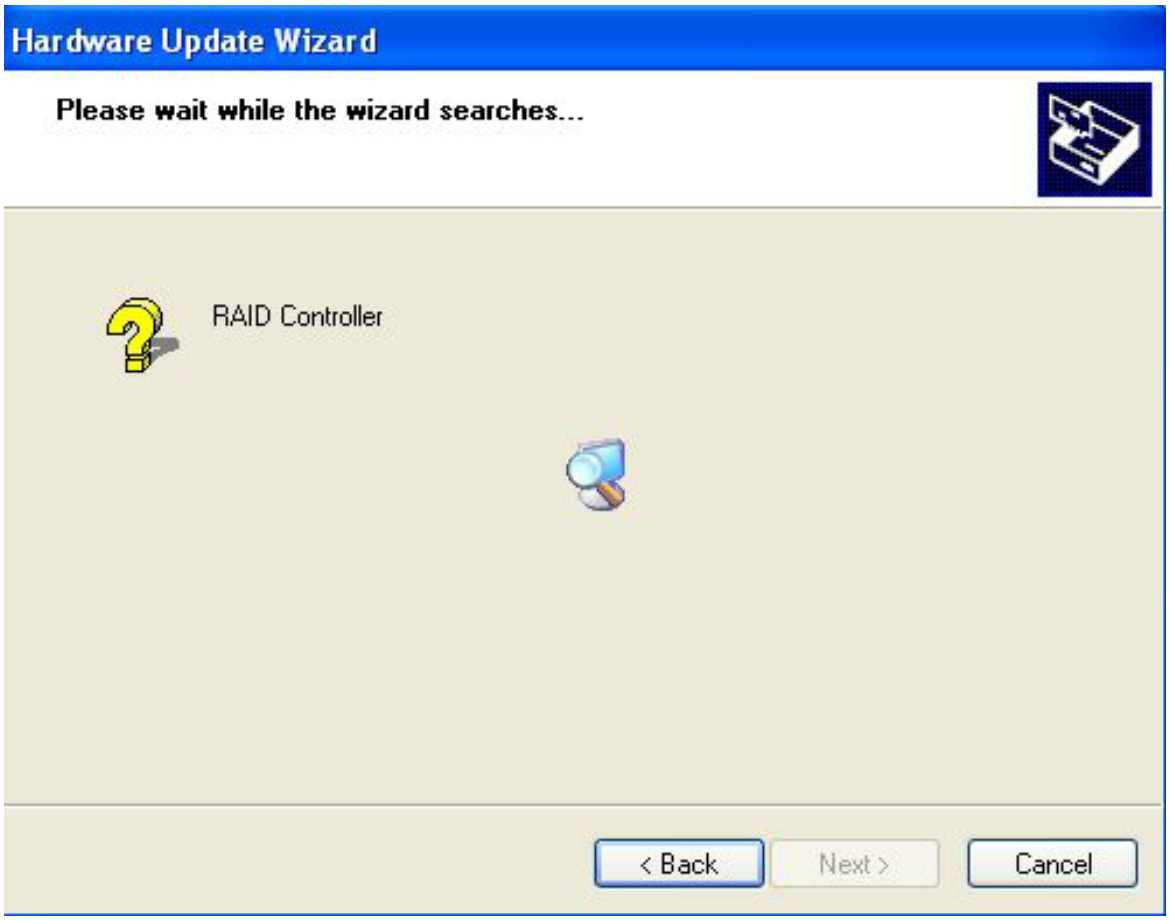


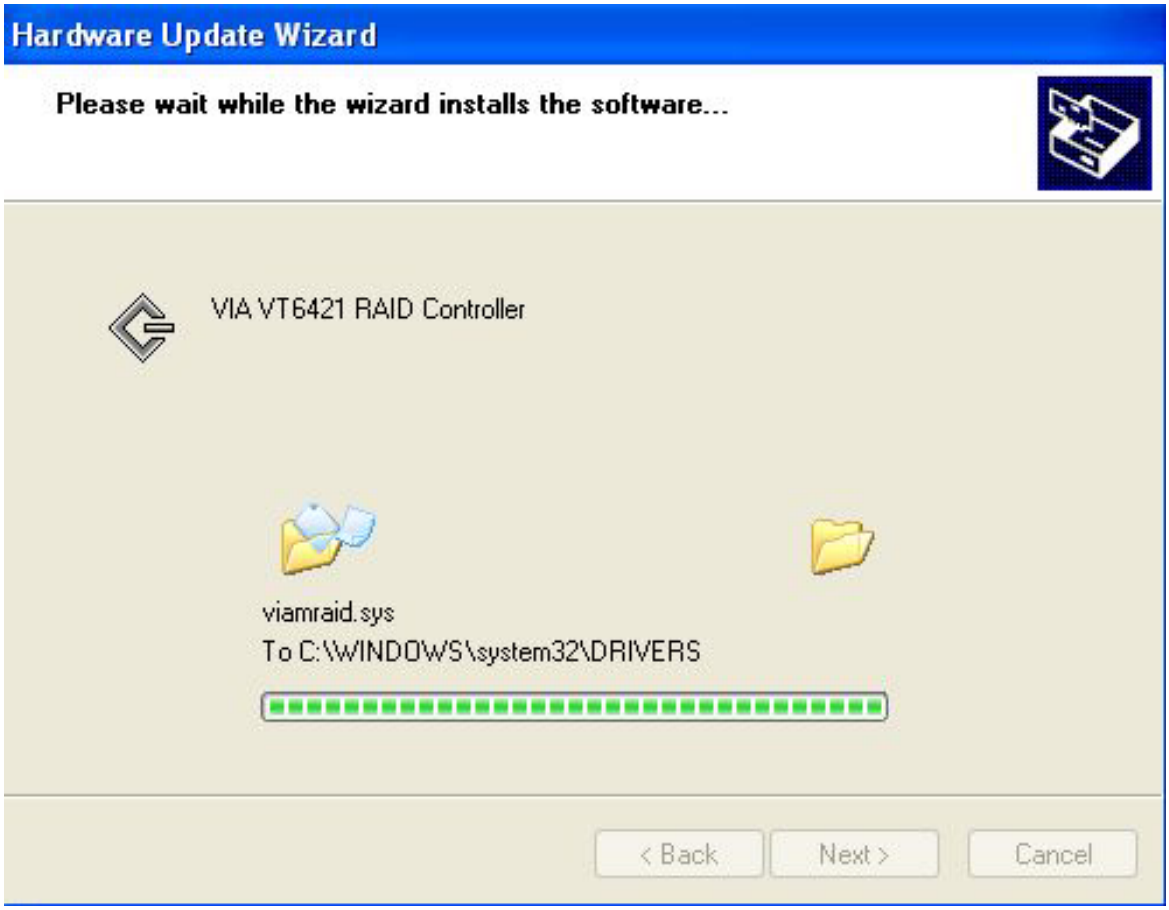
Step 3: Then follow the update Wizard processors.

Hardware Update Wizard
Welcome to the Hardware Update Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Hardware Update Wizard
This wizard helps you install software for:
RAID Controller
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

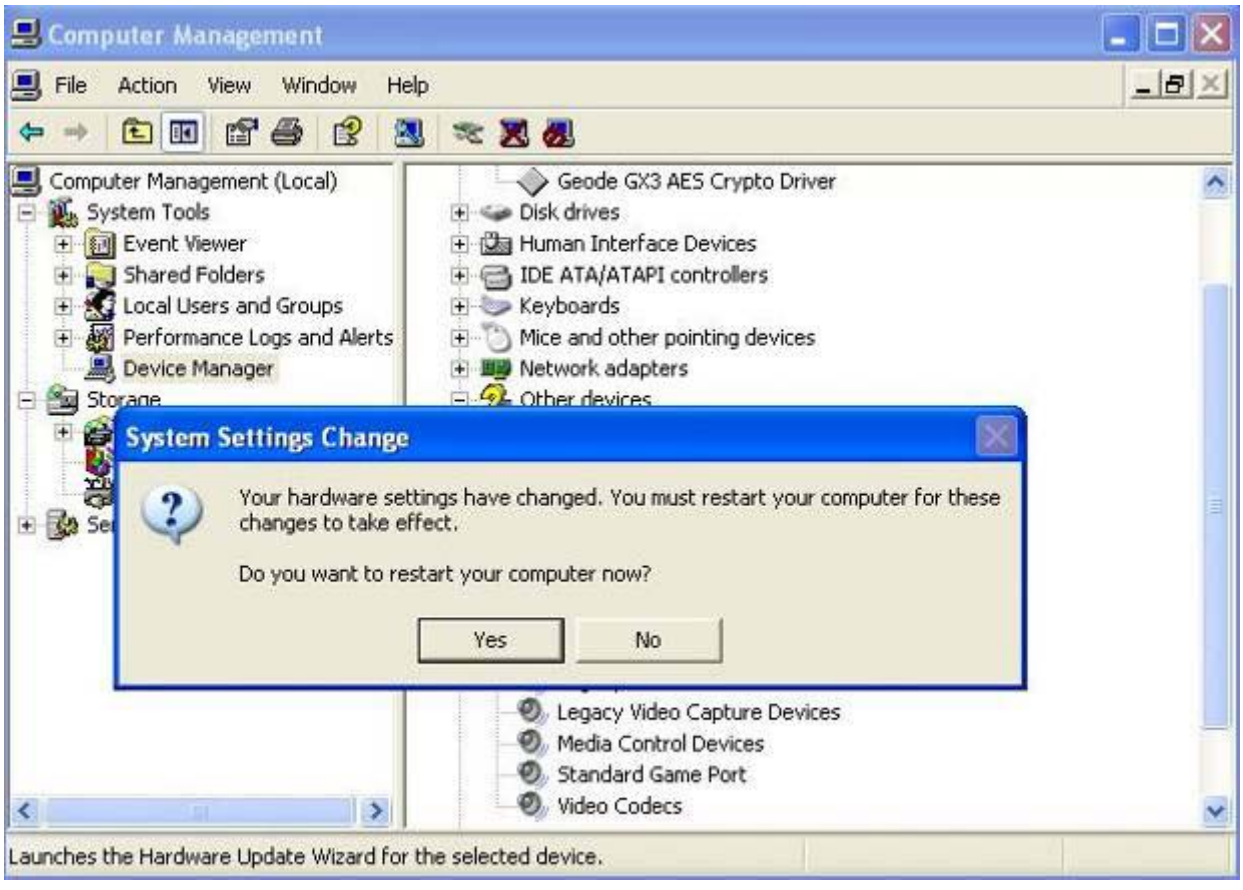

Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
D:\Driver\vt6421
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel


Hardware Update Wizard
Please wait while the wizard searches...
RAID Controller
< Back
Next >
Cancel


Hardware Update Wizard
Please wait while the wizard installs the software...
VIA VT6421 RAID Controller
viamraid.sys
To C:\WINDOWS\system32\DRIVERS
< Back
Next >
Cancel

Hardware Update Wizard
Completing the Hardware Update Wizard
The wizard has finished installing the software for:
VIA VT6421 RAID Controller
The hardware you installed will not work until you restart your computer.
Click Finish to close the wizard.
< Back
Finish
Cancel

Step 4: After you successfully update the driver, you can see the successfully installed from the device manager and you hardware settings have changed, you must restart your computer for these changes to take effect. Click “Yes”.



4.6 Watchdog Timer Configuration

This board has watchdog timer function for monitoring whether the system is still working or not after a period of time. The user can select watchdog timer to system reset or NMI (Non Maskable interrupt) depending on the jumper set in “Reset/NMI/Clear Watchdog Selection”. This is defined at I/O port **443H**. When you want to enable the watchdog timer, please write I/O port **443H**, and then the system will either reset itself or perform the NMI function. Likewise, when you want to disable the function, write I/O port **441H**, the system will run the command to stop the Watchdog function.

In the Prox-7360 watchdog function, you must write your program in such that it writes I/O port address 443 to enable watchdog and writes I/O port address 441 to disable watchdog. The timer's intervals have a tolerance of 25%, so you should program an instruction that will refresh the timer about every second.

The following program shows you how to program the watch timer in your program.

Watchdog enable program:

```
MOV AX, 000FH   (choose the values you need; start from 0)
MOV DX, 443H
OUT DX, AX
```

Watchdog disable program:

```
MOV   AX, 000FH    (this value can be ignored)
MOV DX, 441H
OUT DX, AX
```

The Watchdog Timer control table is as follows:

Level	Value	Time/sec	Level	Value	Time/sec
1	F	0	9	7	64
2	E	8	10	6	72
3	D	16	11	5	80
4	C	24	12	4	88
5	B	32	13	3	96
6	A	40	14	2	104
7	9	48	15	1	112
8	8	56	16	0	120

Chapter 5 Touch Screen Installation

5.1 Introduction to Touch Screen Controller Board

The control board is configured for use with the RS-232 interface. It connects to the touch screen, power supply and computer system's RS-232 port, and supports 4-, 5- and 8-wire touch screens. The control board has some advanced functions, such as PnP and non-PnP mode adjustable baud rate, thus making easy for customers to select different touch screens without changing the control board. The size of the board is 25 by 60mm, and it has two connectors and one dipswitch on-board.

Figure 5.1: Bird's Eye View of Control Board

5.2 Windows 2000/XP Driver Installation for Control Board

Before installing the Windows 2000/XP driver software, you must have the Windows 2000/XP system installed and running on your computer. You must also have the 9036 PenMount Serial Interface controller board installed. Contents of the PenMount Windows 2000/XP driver folder are listed below:

DMC9000.inf
DMC9000.sys
DMC9000.cat
SETUP.EXE

If you have an older version of the PenMount Windows 2000/XP driver installed in your system, please remove it first. Follow the steps below to install the PenMount Windows 2000/XP driver.

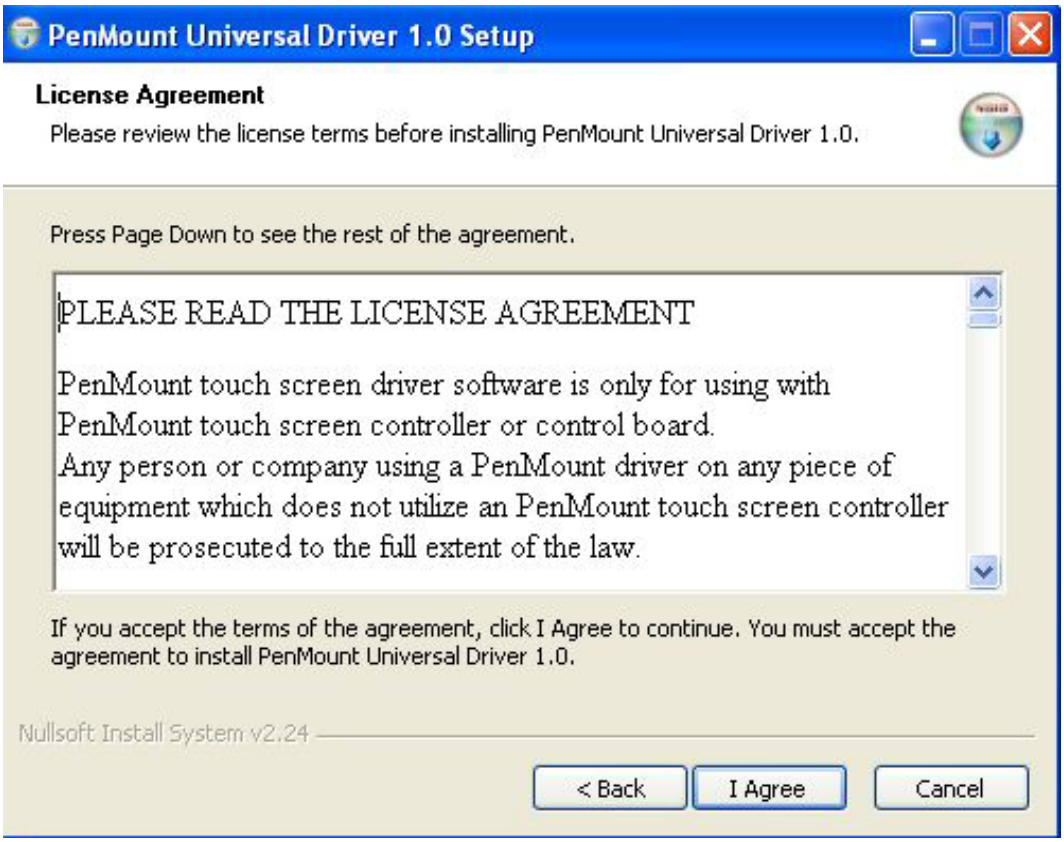
1. When the system first detects the controller board, a screen appears that shows “Unknown Device”. Do not use this hardware wizard. Press Cancel.
2. Insert the TOPSCCC product cd install **setup.exe.** the screen below would appear.

   Click touch panel driver

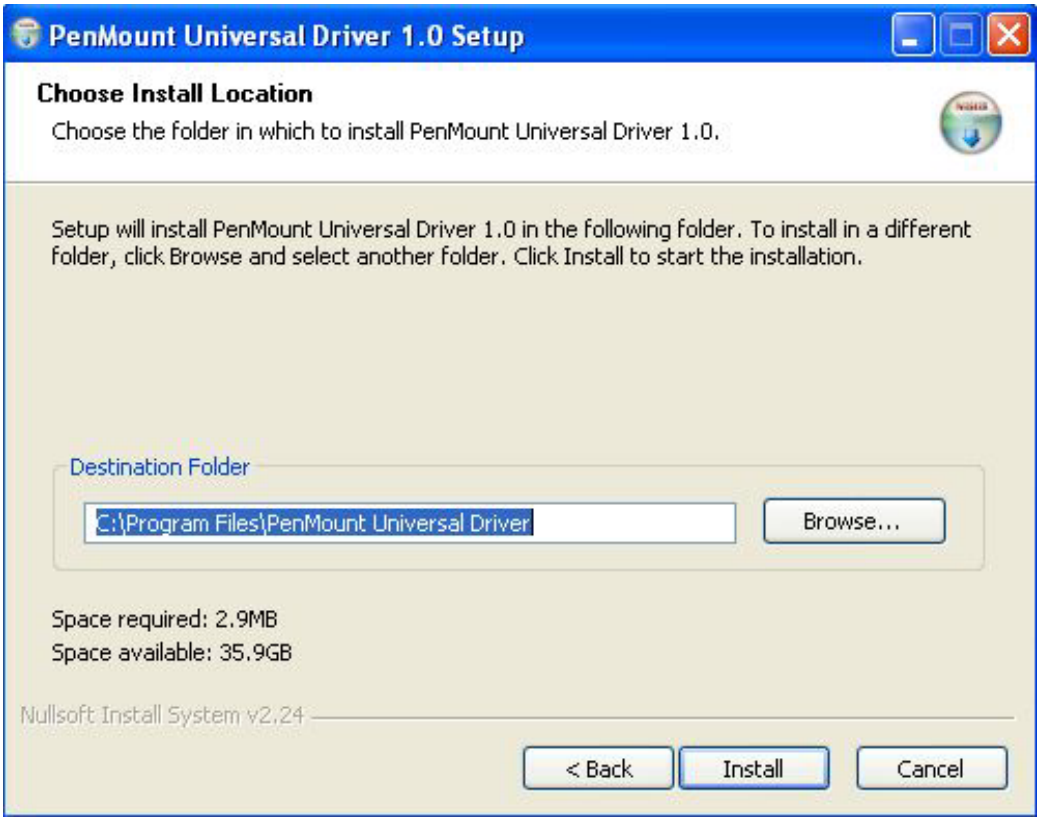
PenMount Universal Driver 1.0 Setup
Welcome to the PenMount Universal Driver 1.0 Setup Wizard
This wizard will guide you through the installation of PenMount Universal Driver 1.0.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
< Back
Next >
Cancel

The screen displays the installation wizard for the PenMount software. Click “Next”.

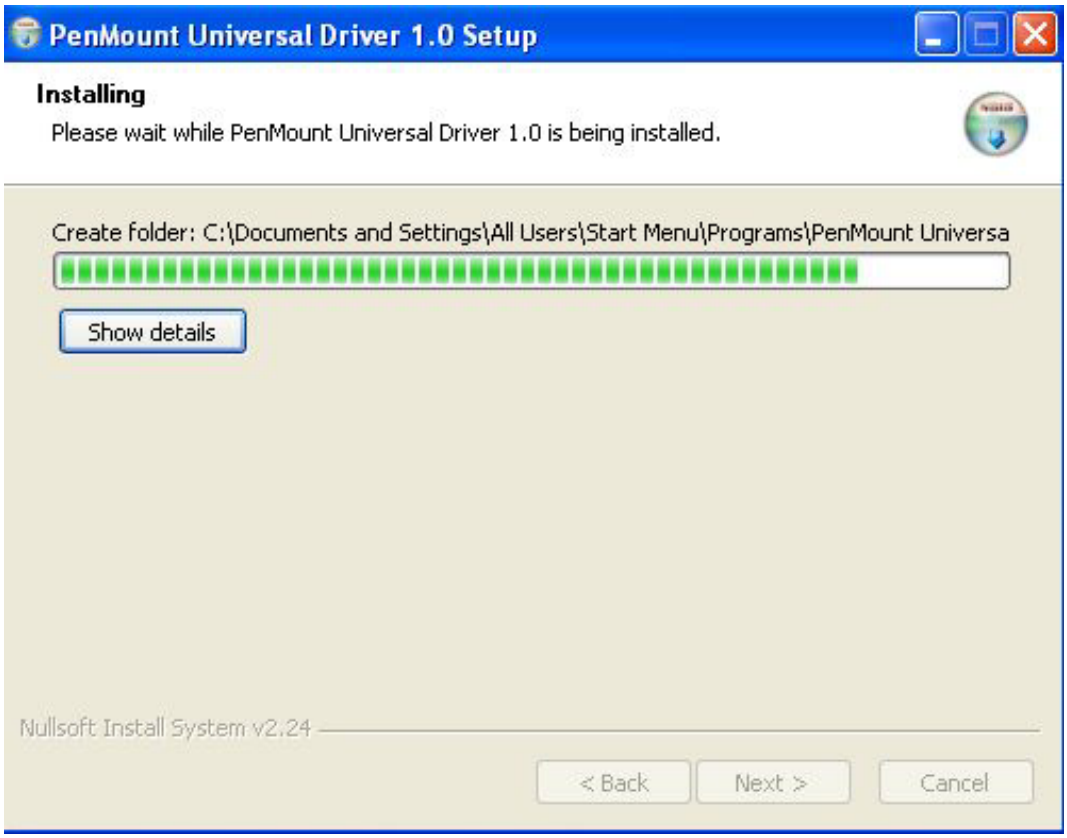
3. A License Agreement appears. Click “I accept…” and “Next”


PenMount Universal Driver 1.0 Setup
License Agreement
Please review the license terms before installing PenMount Universal Driver 1.0.
Press Page Down to see the rest of the agreement.
PLEASE READ THE LICENSE AGREEMENT
PenMount touch screen driver software is only for using with PenMount touch screen controller or control board.
Any person or company using a PenMount driver on any piece of equipment which does not utilize an PenMount touch screen controller will be prosecuted to the full extent of the law.
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install PenMount Universal Driver 1.0.
Nullsoft Install System v2.24
< Back
I Agree
Cancel

4. The “Ready to Install the Program” screen appears. Choose Install Location


PenMount Universal Driver 1.0 Setup
Choose Install Location
Choose the folder in which to install PenMount Universal Driver 1.0.
Setup will install PenMount Universal Driver 1.0 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder
C:\Program Files\PenMount Universal Driver
Browse...
Space required: 2.9MB
Space available: 35.9GB
Nullsoft Install System v2.24
< Back
Install
Cancel

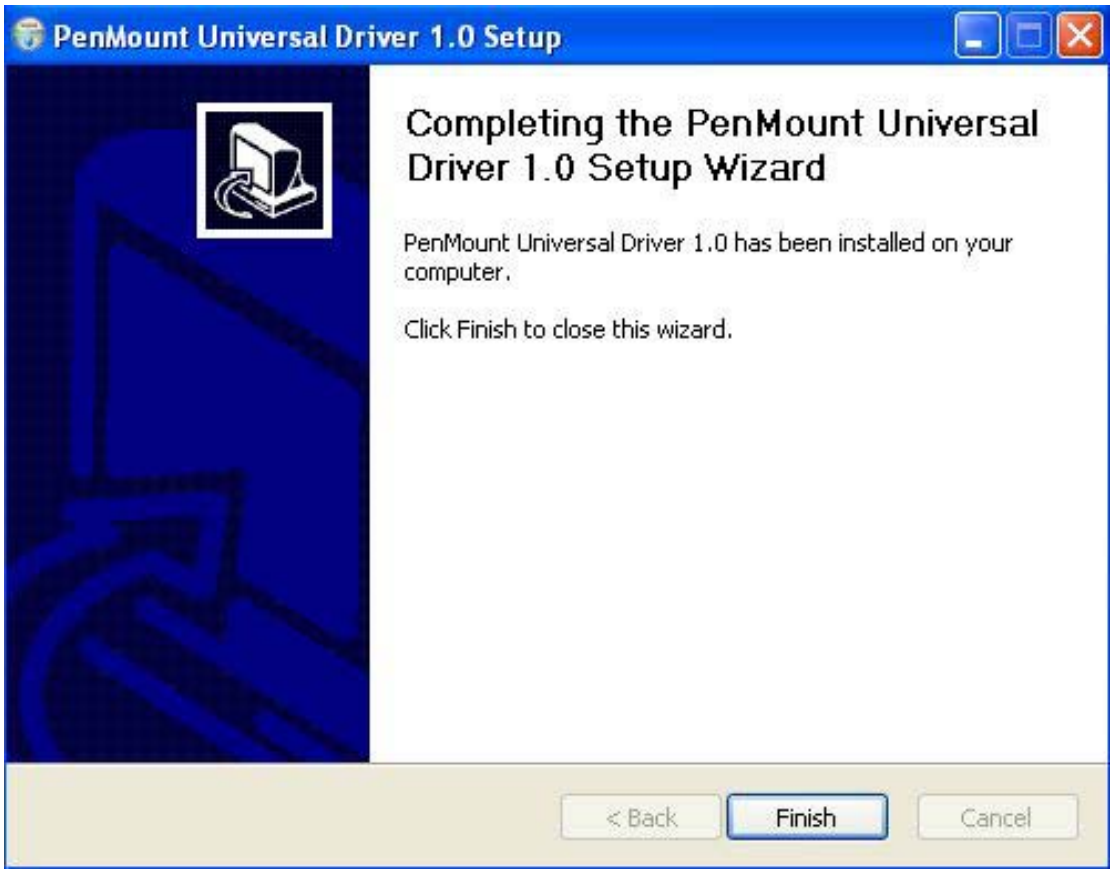
5. The next screen is installing...


PenMount Universal Driver 1.0 Setup
Installing
Please wait while PenMount Universal Driver 1.0 is being installed.
Create folder: C:\Documents and Settings\All Users\Start Menu\Programs\PenMount Universa
Show details
Nullsoft Install System v2.24
< Back
Next >
Cancel

6. The next screen is "Hardware Installation". Select "Continue Anyway"

PenMount Universal Driver 1.0 Setup
Hardware Installation
The software you are installing for this hardware:
PenMount 9000 Serial
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation
< Back
Next >
Cancel

7. PenMount Universal Driver 1.0 has been installed on your computer. Click “Finish” to close this wizard.


PenMount Universal Driver 1.0 Setup
Completing the PenMount Universal Driver 1.0 Setup Wizard
PenMount Universal Driver 1.0 has been installed on your computer.
Click Finish to close this wizard.
< Back
Finish
Cancel

5.3 Configuring the PenMount Windows 2000/XP Driver

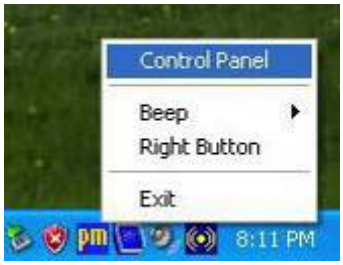
Upon rebooting, the computer automatically finds the new 9036 controller board. The touch screen is connected but not calibrated. Follow the procedures below to carry out calibration.

1. After installation, click the PenMount Monitor icon “PM” in the menu bar.
2. When the PenMount Control Panel appears, click “Calibrate”.

PenMount Monitor Menu Icon

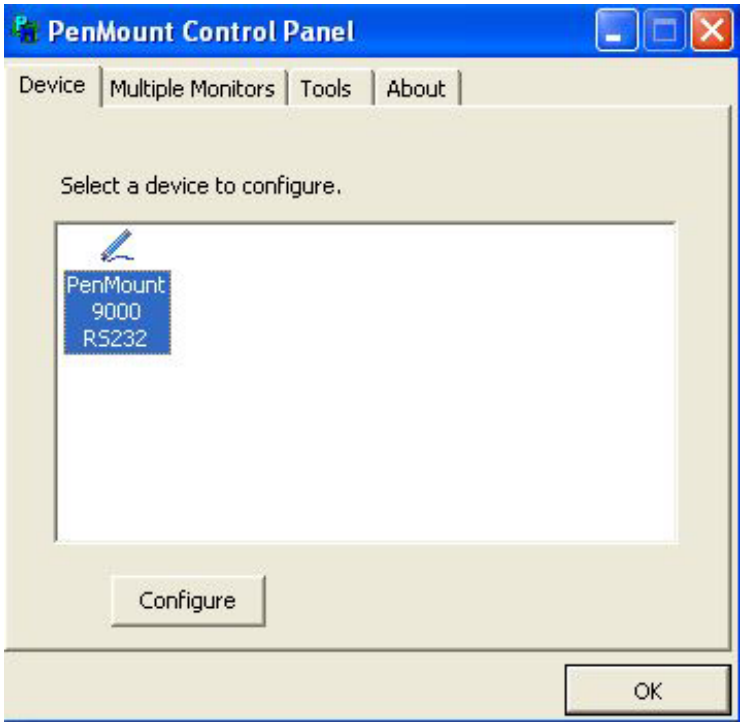
The PenMount monitor icon (PM) appears in the menu bar of Windows 2000/XP system when you turn on the PenMount Monitor in the PenMount Utilities.

5.3.1 The PenMount Monitor has the following functions:



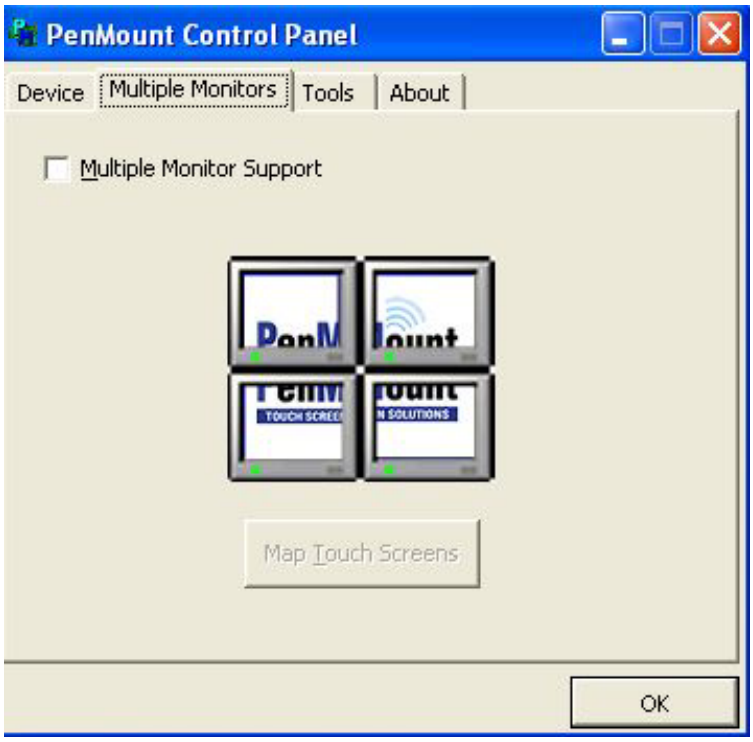
5.3.2 Control Panel

Devic : Click **“configure”** for Calibrate



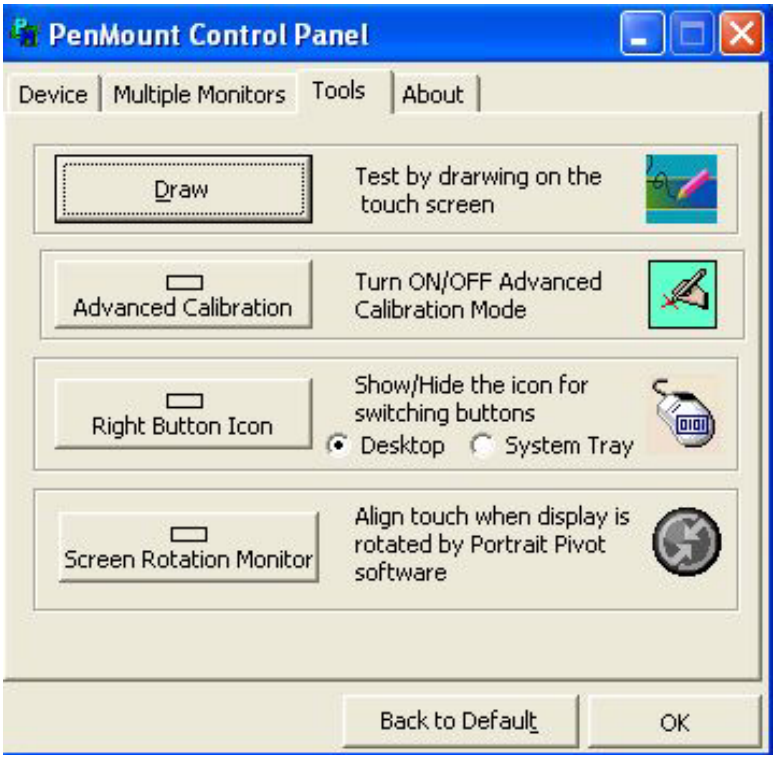
Multiple Monitors

You con select **“Multiple Monitor Support”**



Tools

The functions of the tools are **Draw, Advanced Calibration, Right Button Icon, and Screen Rotation Monitor**.



About

This panel displays information about the PenMount controller and this driver version.

5.3.3 Beep

Turns beep on or off.

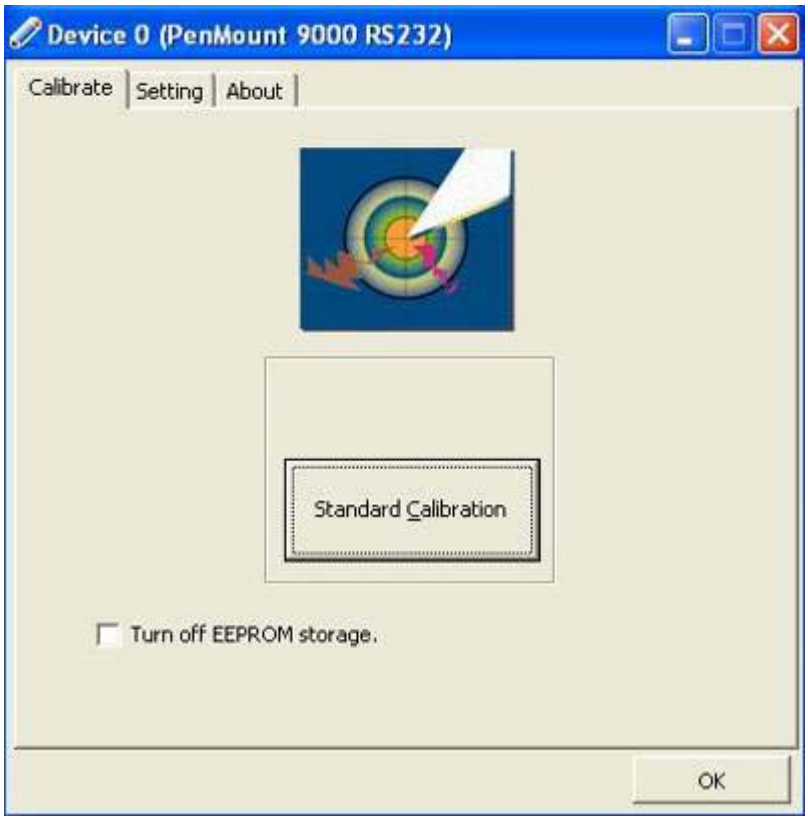
PenMount Control Panel

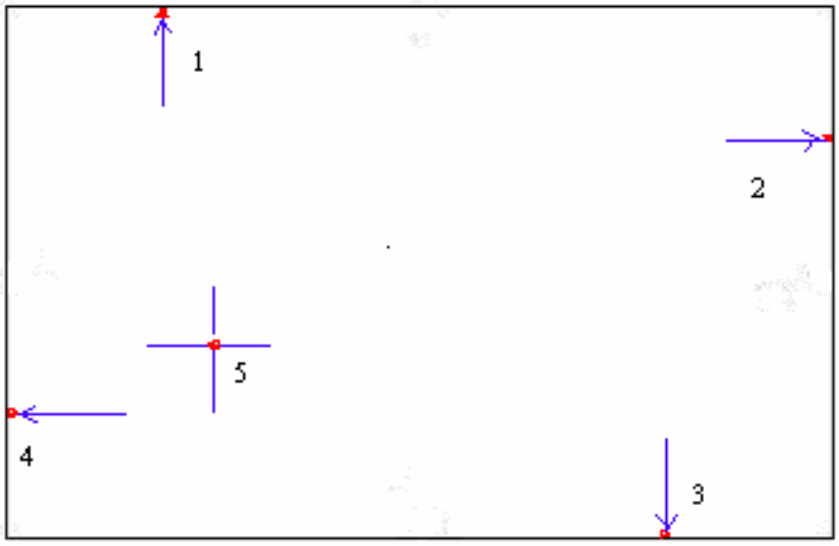
The functions of the PenMount Control Panel are **Calibrate**,**Setting** and **About**, which are explained in the following sections.

Calibrate

This function offers the calibration your touch screen. “Standard Calibration” adjusts most touch screens.

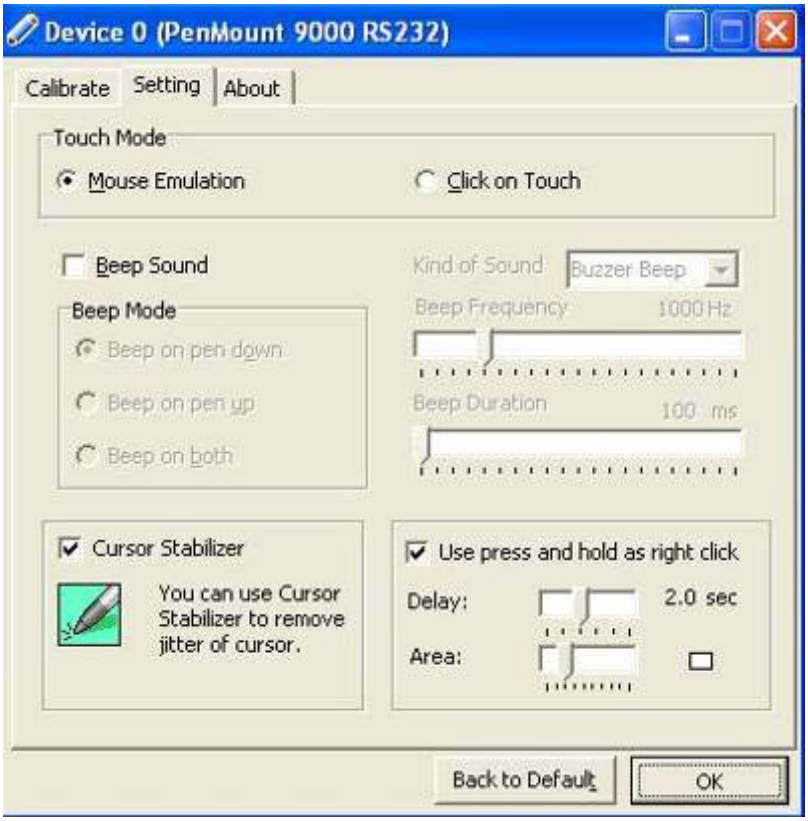
Standard Calibration	**Click this button and arrows appear pointing to red squares. Use your finger or stylus to touch the red squares in sequence. After the fifth red point calibration is complete. To skip, press ‘ESC’.**





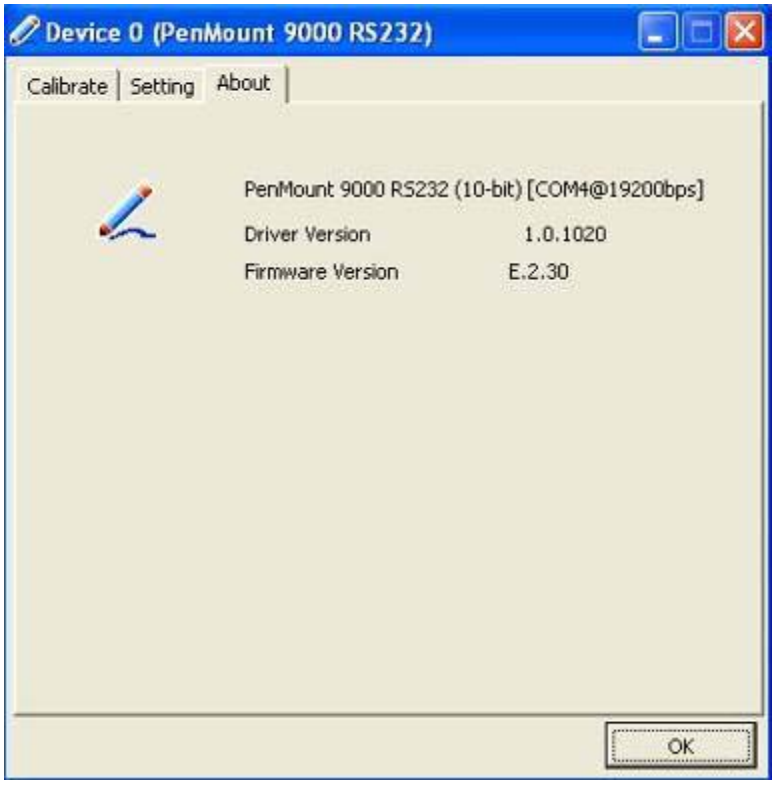
Setting

Click **setting** to start.



About

This panel displays information about the PenMount controller and this driver version.



5.3.4 Right Button

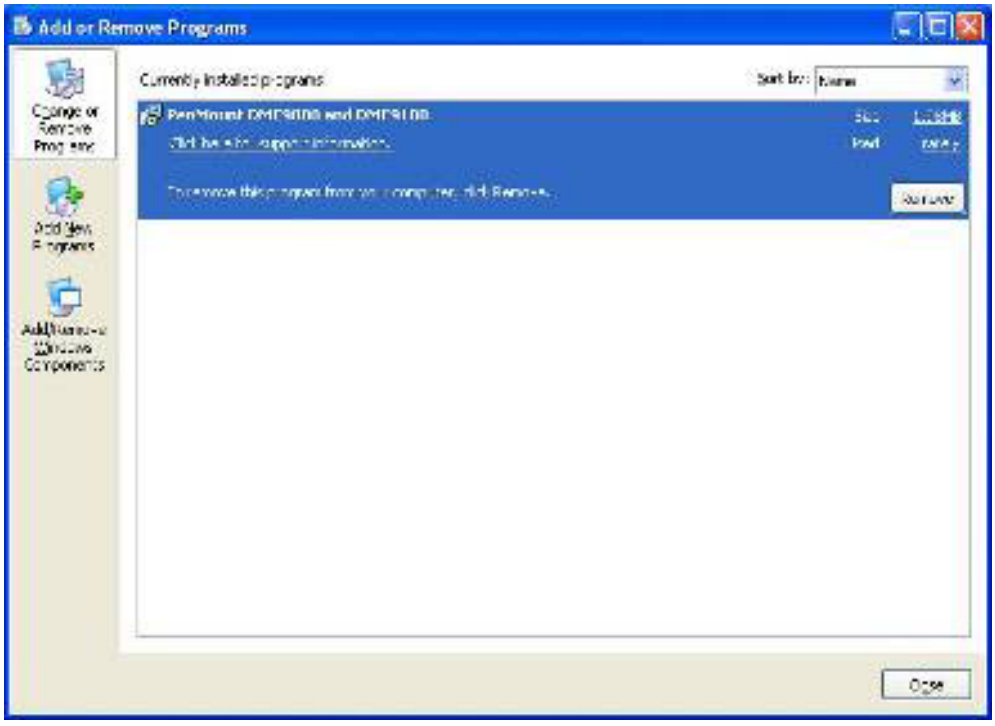
When you select this function, a mouse icon appears in the right-bottom of the screen. Click this icon to switch between Right and Left Button functions.

5.3.5 Exit

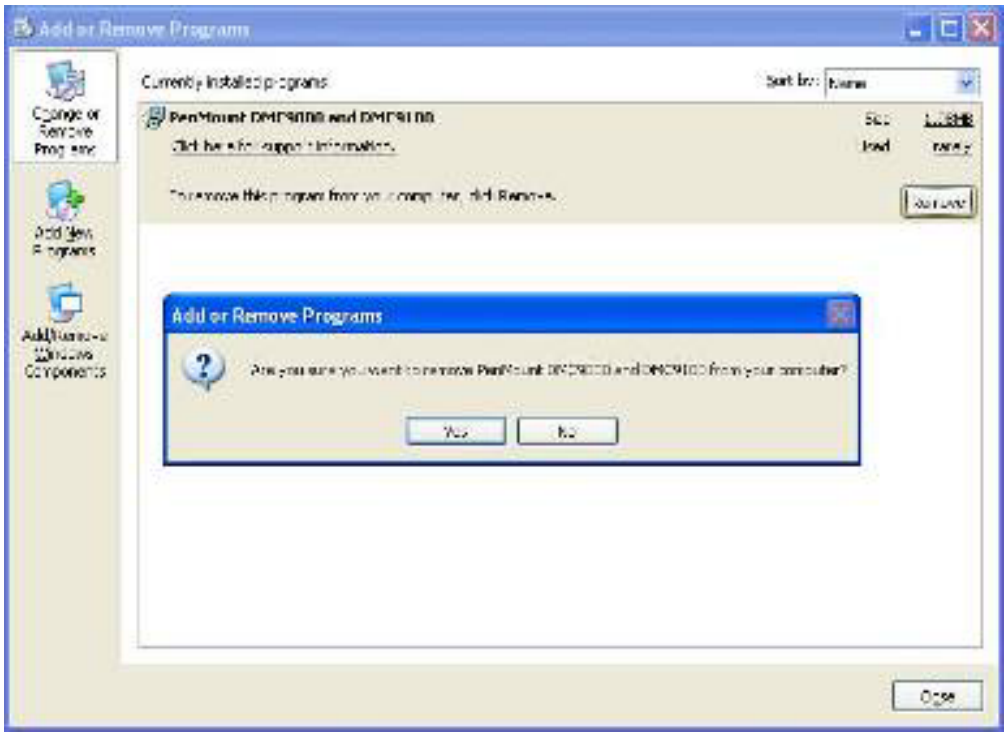
Exits the PenMount Monitor function.

5.4 Uninstall the PenMount Windows 2000/XP Driver

1. Exit the PenMount monitor (PM) in the menu bar.
2. Go to **Settings**, then **Control Panel**, and then click **Add/Remove program**. Select **PenMount DMC9000** and click the **Add/Remove** button.



3. Select **PenMount DMC9000 and DMC9100**. Click the **Remove** button.



4. Select “Yes” and “Close” to remove the PenMount Windows 2000/XP driver, and reboot the system.

5.5 Software Functions

Standard Calibration

The Standard Calibration function lets you match the touch screen to your display so that the point you touch is accurately tracked on screen. Standard calibration only requires four points for calibration and one point for confirmation. Under normal circumstances, Standard Calibration is all you need to perform an accurate calibration.

Advanced Calibration

The Advanced Calibration function improves the accuracy of calibration by using more involved engineering calculations. Use this function only if you have tried the Standard Calibration and there is still a discrepancy in the way the touch screen maps to the display. You can choose 4, 9, 16 or 25 points to calibrate, though we suggest that you first try 9 points, if it is still not tracking well then try 16 or 25 points. The more points you use for calibration, the greater the accuracy. Errors in calibration may occur due to viewing angle, or individual skill, and there may be little difference in using 16 or 25 points. Note that a stylus is recommended for the most accurate results.

Stream/Point Mode

Stream and point modes control the touch and drag function of the touch screen. The point mode only allows “touch” interaction with the screen and does not allow the user to drag objects. The point mode is useful for maintaining the location of screen icons such on POS terminals. The stream mode allows a user to touch and drag icons and other items around on the screen, similar to using a mouse.

Drawing Mode

Drawing mode is a utility that lets the user draw on the screen using a finger or stylus. This allows the user to test the touch screen and touch controller to see if it is operational or is mapped correctly. The drawing mode can display either the matrix address of points touched or just show lines drawn. One of the PenMount driver’s strengths is a special mathematical algorithm that minimizes the occurrence of noise and smooths the drawing of lines.

Beep Sound

All of PenMount’s drivers support the beep sound function; however, some PC systems may only offer a fixed buzzer sound.

Beep Sound Adjustable

Software drivers for Windows systems let the user adjust the frequency and length of the beep sound. The drivers let the user adjust the desired touch screen sound, as well as turn the sound off.

Wake Up Function

The Wake Up function lets the user touch the screen and wake the system up from ‘suspend’ mode.

Point Calibration Data

The Plot Calibration Data function displays the touch screen linearity map, which is available if the PenMount driver provides an Advance Calibration function when touch screens age their touch linearity declines. This non-linearity is apparent when the touched point on the touch screen is not the same as the point on the display. The plot calibration data function shows the linearity status of the touch screen. This is only a support function for the user. The exact linearity of a touch screen requires a linearity test machine.

Right Button

The Right Button function simulates the right button function of a mouse. Click the right button and the user can only touch the screen once and the driver changes the touch definition to the left button.

Hide Cursor

The Hide Cursor function keeps the cursor arrow and other cursor symbols from appearing when using the touch screen. The cursor appears when the user turns this function off.

Cursor Offset

The Cursor Offset function lets the user adjust the position of the touch point to a desired location away from the real touch point.

Double-Click Area and Speed

The Double-Click Area and Speed function lets the user adjust the double-click area and speed to their personal preference.

About

This option shows the exact version of the drivers and controller firmware. Updated drivers are available for download on the PenMount website.